CREEKSIDE

MASONBORO SOUND RD
WILMINGTON, NORTH CAROLINA 28409

CONSTRUCTION PLANS

MARCH 2019

LAST REVISED: MAY 2019

NOTICE REQUIRED

ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED PRIOR TO THE BEGINNING OF ANY CONSTRUCTION IN THE VICINITY OF SAID UTILITIES.

CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.

CONTRACTORS SHALL CONTACT OVERHEAD ELECTRIC PROVIDER TO COMPLY WITH FEDERAL OSHA 1910.333 MINIMUM APPROACH DISTANCE TO ENERGIZED POWERLINES AND OSH 29 CFR 1926.1407-1411 MUST BE FOLLOWED.

CONTRACTOR SHALL CONTACT AT&T PRIOR TO ANY DEMOLITION TO ALLOW FOR AT&T TO DISCONNECT COMMUNICATIONS CABLES COMING INTO THE SITE.

CONTACT THESE UTILITIES

CITY OF WILMINGTON PLANNING & DEVELOPMENT
ATTN: BRIAN CHAMBERS, PLANNER
PH: 910-342-2782

ATTN: ZONING INSPECTIONS
PH: 910-254-0900

PIEDMONT NATURAL GAS
ATTN: CATHY PLEASANT
PH: 910-251-2827

EMERGENCY DIAL 911
POLICE - FIRE - RESCUE
ATTN: CITY OF WILMINGTON FIRE & LIFE SAFETY
PH: 910-343-0696

CAPE FEAR PUBLIC UTILITY AUTHORITY (WATER & SEWER)
ENGINEERING/INSPECTIONS
PH: 910-332-6560

OPERATIONS/MAINTENANCE
PH: 910-322-6550

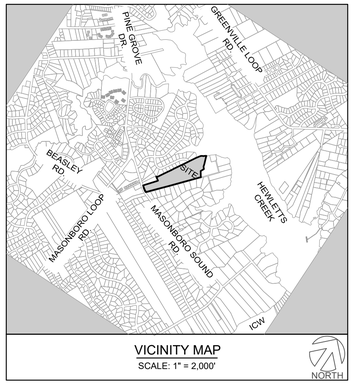
DUKE ENERGY
DISTRIBUTION CONSTRUCTION SERVICE
DEP CSC PH: 1-800-452-2777

TRANSMISSION AGENT
BILL WILDER
PH: 910-772-4903

AT&T/BELL SOUTH
ATTN: STEVE DAYVAULT (BUILDING ENGINEERING)
PH: 910-341-0741

ATTN: JAMES BATSON, ENGINEERING
PH: 910-341-1621

SPECTRUM
GENERAL PH: 800-892-4357



VICINITY MAP
SCALE: 1" = 2,000'

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
C-0.0	COVER SHEET
C-1.0	GENERAL NOTES
C-2.0	SITE INVENTORY PLAN
C-2.1	SITE PLAN
C-2.2 - C-2.4	TREE REMOVAL PLAN
C-3.0 - C-3.2	EROSION CONTROL
C-4.0 - C-4.1	GRADING AND DRAINAGE
C-5.0 - C-5.2	PLAN AND PROFILE
C-6.0 - C-6.4	DETAILS
L-1.0 - L-1.1	LANDSCAPE PLAN

NORTH CAROLINA PROFESSIONAL SEAL 040501 ENGINEER DANIEL J. FISK
5.22.19

811 Know what's below. Call before you dig.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

OWNER / DEVELOPER:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR.
WILMINGTON, NC 28411

ENGINEER (CIVIL), SURVEY & LAND PLANNER:
PARAMOUNTE ENGINEERING, INC.
122 CINEMA DRIVE
WILMINGTON, NORTH CAROLINA 28403
ATTN: DAN FISK, P.E. (910) 791-6707 (CIVIL)
ATTN: CLAY MATTHEWS (LAND PLANNER)

PREPARED BY:
PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846
PROJECT # 18390.PE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

COORDINATION NOTES:

1. THE CONTRACTOR IS REQUIRED TO OBTAIN ANY/ALL PERMITS REQUIRED FOR CONSTRUCTION OF THESE PLANS.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND WITH CITY OF WILMINGTON, NEW HANOVER COUNTY, AND THE STATE OF NORTH CAROLINA.
3. THE CONTRACTOR IS TO ESTABLISH AND CHECK ALL HORIZONTAL AND VERTICAL CONTROLS TO BE USED WITH THE PROJECT. IN ADDITION, THE CONTRACTOR IS TO COMPLETE THE LAYOUT OF THE ENTIRE SITE PLAN IN ADVANCE OF BEGINNING ANY WORK ASSOCIATED WITH THE SUBJECT PLANS. CONTRACTOR SHALL EMPLOY A PROFESSIONAL SURVEYOR TO PERFORM SITE IMPROVEMENT STAKEOUT(S).
4. ANYTIME WORK IS PERFORMED OFF-SITE OR WITHIN AN EXISTING EASEMENT, THE CONTRACTOR IS TO NOTIFY THE HOLDER OF SAID EASEMENT AS TO THE NATURE OF PROPOSED WORK, AND TO FOLLOW ANY GUIDELINES OR STANDARDS WHICH ARE ASSOCIATED WITH OR REFERENCED IN THE RECORDED EASEMENT.
5. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS BY OTHERS FOR ALL BUILDING DIMENSIONS AND DETAILS.

GENERAL NOTES:

1. EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY WAS COMPLETED BY PARAMOUNTE ENGINEERING, INC. THE SURVEY SHALL BE FIELD VERIFIED BY CONTRACTOR AND ANY DISCREPANCIES REPORTED TO THE OWNER, OWNERS REPRESENTATIVE AND/OR ENGINEER IMMEDIATELY.
2. REASONABLE CARE HAS BEEN EXERCISED IN SHOWING THE LOCATION OF EXISTING UTILITIES ON THE PLANS. THE EXACT LOCATION OF ALL EXISTING UTILITIES IS NOT KNOWN IN ALL CASES. THE CONTRACTOR SHALL EXPLORE THE AREA AHEAD OF DITCHING OPERATIONS BY OBSERVATIONS, ELECTRONIC DEVICES, HAND DIGGING AND BY PERSONAL CONTACT WITH THE UTILITY COMPANIES. IN ORDER TO LOCATE EXISTING UTILITIES IN ADVANCE OF TRENCHING OPERATIONS SO AS TO ELIMINATE OR MINIMIZE DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS RESULTING FROM ANY DAMAGE TO THE EXISTING UTILITY LINES INCLUDING LOSS OF UTILITY REVENUES. CONTRACTOR SHALL ARRANGE FOR TEMPORARY SUPPORT OF EXISTING UTILITIES, SUCH AS POLES, CONDUITS, FIBER OPTIC CABLES, TELEPHONE CABLES, WATER LINES, ETC.
3. CONTRACTOR SHALL COMPLY WITH THE LATEST REVISIONS AND INTERPRETATIONS OF THE DEPARTMENT OF LABOR SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION PROMULGATED UNDER THE OCCUPATIONAL SAFETY AND HEALTH ACT.
4. CONTRACTOR SHALL PLAN AND CONSTRUCT WORK SO AS TO CAUSE MINIMUM INCONVENIENCE TO THE OWNER AND THE PUBLIC. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN AT ALL TIMES DURING THE PROGRESS OR TEMPORARY SUSPENSION OF WORK, SUITABLE BARRIERS, FENCES, SIGNS OR OTHER ADEQUATE PROTECTION, INCLUDING FLAGMEN AND WATCHMEN AS NECESSARY TO INSURE THE SAFETY OF THE PUBLIC AS WELL AS THOSE ENGAGED IN THE CONSTRUCTION WORK. CONSTRUCTION SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "CONSTRUCTION AND MAINTENANCE OPERATIONS SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE DOT.
5. ALL MATERIAL CLEARED OR DEMOLISHED BY THE CONTRACTOR IN ORDER TO CONSTRUCT THE WORK SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF-SITE.
6. ALL WORK BY THE CONTRACTOR SHALL BE WARRANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR AFTER THE OWNER ACCEPTS THE WORK.
7. CONTRACTOR SHALL CALL NORTH CAROLINA 811 AT "811" AND ALLOW THE CENTER TO LOCATE EXISTING UTILITIES BEFORE DIGGING.

DEMOLITION NOTES

1. CONTRACTOR IS TO WALK THE SITE AND BECOME FAMILIAR WITH THE SCOPE OF DEMOLITION REQUIRED. ALL DEMOLITION WORK REQUIRED TO CONSTRUCT NEW SITE IMPROVEMENTS WILL BE PERFORMED BY THE CONTRACTOR AND WILL BE CONSIDERED UNCLASSIFIED EXCAVATION.
2. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE PADS, CONCRETE DITCHES, FOUNDATIONS, SLABS, STEPS, AND STRUCTURES; ABANDONED UTILITIES, BUILDINGS, PAVEMENTS AND ALL CLEARING AND GRUBBING TO THE EXTENT NECESSARY AS DIRECTED BY THE SOILS ENGINEER FOR THE INSTALLATION OF THE NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING AND GRADING AS SHOWN ON THESE PLANS.
3. THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTY, STRUCTURES AND UTILITIES ON THE PROPERTY NOT TO BE DEMOLISHED. DAMAGE TO PROPERTIES OF OTHERS DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST TO OWNER.
4. ELECTRIC, TELEPHONE, SANITARY SEWER, WATER AND STORM SEWER UTILITIES THAT SERVICE OFF-SITE PROPERTIES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL PRODUCE A PHOTOGRAPHIC RECORD (DIGITAL) OF DEVELOPMENT COMMENCING WITH A RECORD OF THE SITE AS IT APPEARS BEFORE DEMOLITION HAS BEGUN. AFTERWARDS, A PHOTOGRAPHIC RECORD SHALL BE MAINTAINED WEEKLY DURING CONSTRUCTION AND ENDING WITH A PHOTOGRAPHIC RECORD OF THE DEVELOPMENT AS IT APPEARS AFTER DEMOLITION. THIS RECORD SHALL BE DELIVERED TO THE OWNER.
6. EXISTING CURB AND GUTTER, LIGHTS, SIDEWALK, AND UTILITIES NOT INTENDED FOR DEMOLITION SHALL BE MAINTAINED, PROTECTED AND UNDISTURBED DURING DEMOLITION.
7. ALL EXISTING IMPROVEMENTS INDICATED OR REQUIRED TO BE DEMOLISHED SHALL INCLUDE REMOVAL FROM THE PROPERTY AND PROPER DISPOSAL.
8. CONTRACTOR SHALL COORDINATE RELOCATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES INCLUDING CABLE, GAS, TELEPHONE AND ELECTRIC AND ANY OTHER UTILITIES THROUGH THE SITE WITH THE RESPECTIVE COMPANIES.
9. PROVIDE SMOOTH SAW CUT OF EXISTING PAVEMENTS, CURBS AND GUTTERS AND SIDEWALKS TO BE DEMOLISHED.
10. ALL DEMOLITION WORK SHALL BE DONE IN STRICT ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AS WELL AS OSHA REGULATIONS.
11. EXISTING FIRE HYDRANTS ARE TO REMAIN IN SERVICE.
12. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS OF THE MAINS BY DIGGING TEST PITS BY HAND.

SITE NOTES :

1. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO START OF CONSTRUCTION. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON BEFORE BEGINNING CONSTRUCTION.
2. CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
3. ACCESS TO UTILITIES, FIRE HYDRANTS, STREET LIGHTING, ETC., SHALL REMAIN UNDISTURBED, UNLESS COORDINATED WITH THE RESPECTIVE UTILITY.
4. DO NOT SCALE THIS DRAWING AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
5. THE GENERAL CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT AND AT LEAST ONCE A WEEK DURING CONSTRUCTION.
6. THE GENERAL CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
7. ALL UTILITIES TO SERVICE PROPOSED STRUCTURE SHALL BE UNDERGROUND ON SITE.
8. ALL STREET SURFACES, DRIVEWAYS, CULVERTS, CURB AND GUTTERS, ROADSIDE DRAINAGE DITCHES AND OTHER STRUCTURES THAT ARE DISTURBED OR DAMAGED IN ANY MANNER AS A RESULT OF CONSTRUCTION SHALL BE REPLACED OR REPAIRED IN ACCORDANCE WITH THE SPECIFICATIONS.
9. CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE OWNER UPON COMPLETION OF THE PROJECT WITH A COPY OF THE TRANSMITTAL LETTER TO THE ENGINEER.
10. IF DEPARTURES FROM THE SPECIFICATIONS OR DRAWINGS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE GIVEN TO THE OWNER FOR REVIEW, NO DEPARTURES FROM THE CONTRACT DOCUMENT SHALL BE MADE WITHOUT THE PERMISSION OF THE OWNER, THE CITY OF WILMINGTON, OR NEW HANOVER COUNTY RESPECTIVELY.
11. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES. THE LOCATION OF ALL EXISTING UTILITIES ARE NOT NECESSARILY SHOWN ON PLANS AND WHERE SHOWN ARE ONLY APPROXIMATE. THE CONTRACTOR SHALL ON HIS INITIATIVE AND AT NO EXTRA COST HAVE LOCATED ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. NO CLAIMS FOR DAMAGES OR EXTRA COMPENSATION SHALL ACCRUE TO THE CONTRACTOR FROM THE PRESENCE OF SUCH PIPE OTHER OBSTRUCTIONS OR FROM DELAY DUE TO REMOVAL OR REARRANGEMENT OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND STRUCTURES. CONTACT "NORTH CAROLINA 811" CALL 811 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL NON-SUBSCRIBING UTILITIES.
12. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC., THAT MAY BE REQUIRED.
13. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
14. ALL PARKING LOT DIMENSIONS ARE FROM FACE OF CURB UNLESS NOTED OTHERWISE.
15. LANDSCAPE PLANTINGS AT ENTRANCE/ EXITS WILL BE INSTALLED AND MAINTAINED SO AS NOT TO INTERFERE WITH SIGHT DISTANCE NEEDS OF DRIVERS IN THE PARKING AREA AND AT ENTRANCE/EXIT LOCATIONS PER LOCAL STANDARDS.
16. SEEDING TO BE INSTALLED TO LOCAL REQUIREMENTS & STANDARD PRACTICES.
17. ALL DIMENSIONS AND RADII ARE TO OUTSIDE FACE OF BUILDING OR TO FACE OF CURB UNLESS OTHERWISE NOTED.

TRAFFIC NOTES:

1. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY & FOR DRIVEWAY(S) ARE TO BE THERMOPLASTIC & MEET CITY AND/OR NCDOT STANDARDS.
2. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
3. ALL TRAFFIC CONTROL SIGNS AND MARKINGS NOT WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
8. TACTILE WARNING MATS TO BE INSTALLED AT ALL WHEELCHAIR RAMPS.

EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES:

NOTE: THESE EROSION CONTROL AND SEQUENCE OF CONSTRUCTION NOTES ARE INTENDED FOR EACH "PHASE" OF CONSTRUCTION. THE ORDER AND STEPS TAKEN MUST BE IMPLEMENTED AS EACH PART OF THE PROJECT IS DEVELOPED; WHETHER AS A WHOLE OR IN PHASES. ANY EROSION CONTROL DEVICES/MEASURES MUST REMAIN IN PLACE UNTIL THE ENTIRE BASIN DESIGNED TO HANDLE SEDIMENTATION AND EROSION IS STABILIZED AND ALL IMPROVEMENTS WITHIN THE BASIN ARE COMPLETE.

PHASE I EROSION CONTROL PLAN:

1. CONSTRUCT TEMPORARY GRAVEL CONSTRUCTION ENTRANCE(S), ESTABLISH THE LIMITS OF DISTURBANCE, AND TEMPORARY SILT FENCE.
2. CLEAR AND GRUB THE AREAS REQUIRED TO CONSTRUCT THE SEDIMENT SKIMMER BASIN AND TEMPORARY DIVERSION DITCH (TDD). ONCE COMPLETE, INSTALL SKIMMER AS SHOWN.
3. CLEAR AND REMOVE FROM SITE ALL TREES (ONLY ONES TO BE REMOVED), ROOTS, ROOT MAT, ETC. FROM THE AREA WITHIN THE DESIGNATED CLEARING LIMITS. INSTALL REMAINING EROSION CONTROL MEASURES AS SHOWN ON THE PLANS WITHIN THE AREA DISTURBED. ALL EROSION CONTROL MEASURES MUST BE INSTALLED BEFORE COMMENCING CONSTRUCTION.
4. PLANT GRASS OVER ALL GRADED AREAS WITHIN 14 DAYS OF CEASE OF ANY GRADING ACTIVITY.

PHASE II EROSION CONTROL PLAN:

5. IMMEDIATELY UPON THE INSTALLATION OF ANY STORM DRAINAGE CATCH BASIN, DROP INLET, ETC., THE CONTRACTOR SHALL INSTALL INLET PROTECTION TO STOP ANY SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.
6. DURING ROUGH GRADING ACTIVITIES, THE CONTRACTOR SHALL GRADE THE SITE IN SUCH A FASHION THAT THE RUNOFF FROM THE SITE IS DIRECTED TO THE TEMPORARY SILT FENCE AS SHOWN ON THE PLANS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND RESTORING TO PRE-CONSTRUCTION CONDITIONS ANY AREAS OUTSIDE THE PROJECT LIMITS THAT MAY INADVERTENTLY BE DAMAGED DUE TO THE FAILURE OF THE EROSION CONTROL MEASURES.
8. DURING GRADING AND AFTER GRADING HAS BEEN COMPLETED, THE CONTRACTOR SHALL CONTINUE TO MAINTAIN PERMANENT AND TEMPORARY EROSION CONTROL MEASURES UNTIL FINAL INSPECTION AND APPROVAL BY LOCAL EROSION CONTROL PROGRAM.
9. UPON RECEIVING FINAL INSPECTION AND APPROVAL BY LOCAL EROSION CONTROL PROGRAM, THE CONTRACTOR CAN REMOVE TEMPORARY EROSION CONTROL MEASURES.
10. ONCE SITE IS STABILIZED, WET BASINS USED AS SEDIMENT BASINS DURING CONSTRUCTION SHALL BE CLEANED OUT AND RETURNED TO ITS ORIGINAL DESIGN STATE BEFORE IT CAN BE USED AS A STORM WATER FACILITY.
11. THE CONTRACTOR SHALL CONTINUE TO WATER, FERTILIZE, MOW AND MAINTAIN SPRIGGED, SODDED, AND PLANTED AREAS UNTIL ALL CONSTRUCTION IS COMPLETE.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

1. THE EROSION CONTROL PLAN SHALL INCLUDE PROVISIONS FOR GROUNDCOVER ON ALL EXPOSED PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1 WITHIN 7 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY. GROUND COVER SHALL BE PROVIDED ON ALL OTHER DISTURBED AREAS WITHIN 14 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY.
2. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL HANDBOOK. (NO SEPARATE PAYMENT).
3. THE CONTRACTOR SHALL NOTIFY PLAN APPROVING AUTHORITY ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO FINAL INSPECTION.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE. THE TEMPORARY CONSTRUCTION ENTRANCE SHOULD BE THE FIRST MEASURE INSTALLED.
5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
6. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO OFF-SITE BORROW OR WASTE AREAS, STAGING OR STORAGE AREAS), THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO THE LOCAL REVIEWING AGENCY FOR APPROVAL. CONTRACTOR SHALL PAY ALL FEES REQUIRED AND SHALL INSTALL NECESSARY MEASURES AT NO SEPARATE PAYMENT. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER A COPY OF THE AMENDED PERMIT.
7. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY EITHER THE REVIEWING AGENCY OR THE ENGINEER. (NO SEPARATE PAYMENT).
8. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
9. ALL AREAS DISTURBED BY CONSTRUCTION UNLESS OTHERWISE IMPROVED SHALL BE SODDED OR SEEDED AS INDICATED AND STABILIZED.
10. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
11. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
12. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED BY CONTRACTOR ONCE STABILIZATION OR A SUFFICIENT GROUND COVER HAS BEEN ESTABLISHED OR AS DIRECTED BY THE ENGINEER. (NO SEPARATE PAYMENT). LOCAL EROSION CONTROL PROGRAM'S FINAL APPROVAL IS REQUIRED PRIOR TO ANY TEMPORARY EROSION CONTROL MEASURES REMOVAL.
13. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREA. (NO SEPARATE PAYMENT).
14. WHEN CROSSING CREEK OR DRAINAGE-WAY, THE DIVISION OF WATER QUALITY SHALL BE CONTACTED PRIOR TO DISTURBING A CREEK. THE CONTRACTOR SHALL INSTALL RIP-RAP WITH FABRIC ALONG DISTURBED BANKS AND CHANNEL AND RESTORE SLOPES TO ORIGINAL CONTOURS, BUT NOT STEEPER THAN 2:1 MAXIMUM. DISTURBED CREEK AREA SHALL BE STABILIZED IMMEDIATELY.

MAINTENANCE PLAN

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. ALL CONSTRUCTION ENTRANCES WILL BE PERIODICALLY TOP DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. ANY SEDIMENT THAT IS TRACKED INTO THE STREET WILL BE IMMEDIATELY REMOVED.
3. SEDIMENT FENCE - SEDIMENT WILL BE REMOVED BEHIND THE SEDIMENT FENCE WHEN IT BECOMES 0.5 FEET DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. SILT FENCE STAKES WILL BE SPACED 6 FEET APART UNLESS A WIRE BACKING IS USED WITH 8 FOOT STAKE SPACING.
4. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
5. INLET PROTECTION - INSPECT INLET PROTECTION AT LEAST ONCE A WEEK AND AFTER EACH SIGNIFICANT (½ INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMENT THAT IS REMOVED IN THE DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRAVEL FACING.
6. SEDIMENT BASIN/SEDIMENT TRAPS - REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO WITHIN ONE HALF OF THE DESIGN DEPTH. THE ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR WHEN THE ROCK IS DISLODGED. BAFFLES WILL BE REPAIRED OR REPLACED PROMPTLY IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. SEDIMENT WILL BE REMOVED FROM BAFFLES WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED WEEKLY AND WILL BE KEPT CLEAN. PLACE SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, PIPING, AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.
7. SKIMMER - INSPECT SKIMMER AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL TO MAKE SURE THAT THE INTAKE MECHANISM, ORIFICE, OR DISCHARGE PIPE IS NOT CLOGGED WITH TRASH OR SEDIMENT. IF THE BASIN IS DRY, MAKE SURE THAT ANY VEGETATION GROWING ON THE BOTTOM IS NOT HOLDING THE SKIMMER DOWN. TAKE SPECIAL PRECAUTION IN WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.
8. OUTLET PROTECTION - INSPECT RIP RAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (½ INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIP RAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.
9. EMERGENCY SPILLWAY / FOREBAY PROTECTION - AFTER EVERY HIGH-WATER EVENT INSPECT THE INTEGRITY OF THE LINED SPILLWAY AND THE ADJACENT EARTHENED BANKS. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE. REPAIR ANY VOIDS IN THE RIP RAP LINED APRONS, RE-ESTABLISH ANY LOOSE STONES, AND FIX GAPS IN THE ADJACENT VEGETATIVE COVER.
10. TEMPORARY SEDIMENT FENCE OUTLET - INSPECT SEDIMENT CONTROL FENCE ON A REGULAR BASIS AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. REMOVE AND REPLACE CLOGGED SEDIMENT STONE. INSTALL ADDITIONAL POSTS OR WIRE IF FENCE IS SAGGING.
11. COMPOST SOCK - INSPECT COMPOST SOCKS WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/2 INCH OR GREATER). REMOVE ACCUMULATED SEDIMENT AND ANY DEBRIS. THE COMPOST SOCK MUST BE REPLACED IF CLOGGED OR TORN. IF PONDING BECOMES EXCESSIVE, THE SOCK MAY NEED TO BE REPLACED WITH A LARGER DIAMETER OR A DIFFERENT MEASURE. THE SOCK NEEDS TO BE REINSTALLED IF UNDERMINED OR DISLODGED. THE COMPOST SOCK SHALL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY STABILIZED.
12.) WATTLE BARRIER - IT IS IMPORTANT THAT THE WATTLE BARRIERS BE KEPT CLEAN TO ALLOW WATER TO FLOW THROUGH THE NATURAL FIBERS. THE WATTLE BARRIERS CAN BECOME BLOCKED WITH DEBRIS, SEDIMENT, STRAW AND OTHER ITEMS.

THE UP GRADIENT SIDE OF THE WATTLE BARRIER SHOULD BE MAINTAINED TO ALLOW THE WATER TO FLOW THROUGH, REDUCE VELOCITY AND ALLOW SEDIMENTATION TO OCCUR.

IF THE NATURAL FIBERS OF THE WATTLE BARRIER BECOME TOO SATURATED WITH DEBRIS, SEDIMENT, ETC., AND REMOVAL OF THESE ITEMS IS NOT POSSIBLE, WATTLE BARRIERS SHOULD BE REPLACED.

STAKES SHOULD BE USED TO ANCHOR THE WATTLE BARRIER ADEQUATELY TO THE GROUND TO PREVENT SCOURING AND WASHOUT DURING STORM EVENTS.

13.) CHECK DAM - INSPECT CHECK DAMS AND CHANNELS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (½ INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. CLEAN OUT SEDIMENT, STRAW, LIMBS, OR OTHER DEBRIS THAT COULD CLOG THE CHANNEL WHEN NEEDED. ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE CHECK DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGE IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, ADDITIONAL MEASURES CAN BE TAKEN SUCH AS, INSTALLING A PROTECTIVE RIPRAP LINER IN THAT PORTION OF THE CHANNEL (PRACTICE 6.31, RIPRAP-LINE AND PAVED CHANNELS). REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION, ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

14.) TEMPORARY DIVERSION DITCHES - INSPECT DITCHES WEEKLY AND AFTER EVERY RAINFALL EVENT, REPAIR IMMEDIATELY AS NECESSARY. INSPECT THE CHANNEL OUTLET AND ALL ROAD CROSSINGS FOR BANK STABILITY AND EVIDENCE OF PIPING OR SCOUR HOLES. REMOVE ALL SIGNIFICANT SEDIMENT ACCUMULATIONS TO MAINTAIN THE DESIGNED CARRYING CAPACITY.

15.) PERMANENT SWALES - INSPECT SWALES WEEKLY AND AFTER EVERY RAINFALL EVENT, REPAIR IMMEDIATELY AS NECESSARY. INSPECT THE CHANNEL OUTLET AND ALL ROAD CROSSINGS FOR BANK STABILITY AND EVIDENCE OF PIPING OR SCOUR HOLES. REMOVE ALL SIGNIFICANT SEDIMENT ACCUMULATIONS TO MAINTAIN THE DESIGNED CARRYING CAPACITY.

16.) ROCK PIPE INLET PROTECTION - INSPECT ROCK PIPE INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMENT THAT IS REMOVED IN THE DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRAVEL FACING. CHECK THE STRUCTURE FOR DAMAGE. ANY RIPRAP DISPLACED FROM THE STONE HORSESHOE MUST BE REPLACED IMMEDIATELY.

GENERAL UTILITY NOTES

1. ALL STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF WILMINGTON REQUIREMENTS AS SPECIFIED ON THE DRAWINGS AND IN THE PROJECT SPECIFICATIONS.
2. BEDDING FOR ALL STORM SEWER PIPE SHALL BE AS SPECIFIED ON THE DRAWINGS.
3. ALL STORM SEWER PIPES SHOWN AS RCP ON THE PLANS SHALL BE REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-76, UNLESS INDICATED OTHERWISE ON PLANS.

LOT DRAINAGE NOTE:

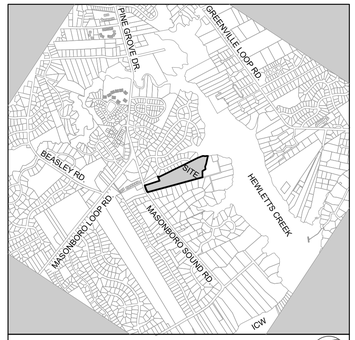
1. ALL LOTS SHALL BE GRADED AND/OR PROVIDE ROOF DRAINS TO DIRECT ALL BUA DRAINAGE TO STORMWATER CONTROL MEASURE (WET POND).

EXISTING UTILITY NOTES

1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO VERIFY THE ACTUAL LOCATION AND AVAILABILITY OF ALL EXISTING AND PROPOSED UTILITIES IN THE FIELD PRIOR TO GROUND BREAKING.
2. EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON A FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.

PERMANENT SEEDING			
GRASS TYPE	LBS/ ACRE	TIME OF SEEDING	FERTILIZER LIMESTONE
BERMUDA, HULLED BERMUDA, UNHULLED	10-20 35	MARCH - AUGUST SEPT. - FEB.	BY SOIL TEST
CENTIPEDE	10	MARCH - AUGUST	BY SOIL TEST (NO HIGH PH)
TALL FESCUE (COASTAL CULTIVAR RECOMMENDED)	50	MARCH - AUGUST	300 LB/AC 10-20-20 OR BY SOIL TEST
SLOPES >= 2:1 CENTIPEDE SERICEA LESPEDEZA	5 20	JAN - DEC	BY SOIL TEST

TEMPORARY SEEDING			
GRASS TYPE	LBS/ ACRE	TIME OF SEEDING	FERTILIZER LIMESTON



VICINITY MAP
SCALE: 1" = 2,000'

NORTH

SITE INVENTORY DATA

1. PREPARER OF THE PLAN:	PARAMOUNTE ENGINEERING, INC. 122 CINEMA DRIVE WILMINGTON, NC 28403	11. LOCATION OF EXISTING DITCHES, CREEKS, AND STREAMS:	SEE PLAN
2. APPLICANT/ DEVELOPER:	SUNRISE LAND INVESTMENTS, LLC. 7923 REUNION DR WILMINGTON, NC 28411	12. SOILS:	CRAVEN FINE SANDY LOAM (Cr), RAINS FINE SANDY LOAM (Ra) (SEE SOILS MAP THIS SHEET)
3. SITE ADDRESS:	MASONBORO SOUND RD. WILMINGTON, NC 28409	13. CAMA AEC & ASSOCIATED SETBACKS:	SEE PLAN
4. PROPERTY OWNER:	SAME AS APPLICANT	14. CAMA LAND CLASSIFICATION:	WATERSHED RESOURCE PROTECTION; CONSERVATION AREA
5. PROPERTY BOUNDARY:	SEE PLAN	15. CONSERVATION RESOURCES:	SEE PLAN
6. ZONING:	R-20	16. LOCAL, STATE, OR FEDERAL HISTORIC OR ARCHAEOLOGICAL SITE:	N/A
7. ADJACENT PROPERTY INFORMATION (OWNER AND ZONING):	SEE PLAN	17. LOCATION OF CEMETERIES, BURIAL SITES, OR BURIAL GROUNDS:	N/A
8. VICINITY MAP:	SEE MAP THIS SHEET	18. SQUARE FOOTAGE OF FORESTED AREA, HABITAT, AND DOMINANT SPECIES:	N/A
9. TOPOGRAPHY:	SEE PLAN	19. SECTION 404 WETLANDS AND SECTION 10 WATERS:	SEE PLAN
10. 100 YEAR FLOOD PLAIN BOUNDARY:	THIS PARCEL CONTAINS AREAS LOCATED IN FLOOD ZONE AE-12, AE-13, AND ZONE X, AS DETERMINED BY FEMA FLOOD PANEL 3720314600K AND 3720314500K DATED AUGUST 28, 2018	20. PROTECTED SPECIES OR HABITAT:	N/A
		21. THOROUGHFARES, BIKE ROUTES, SIDEWALKS, TRANSIT FACILITIES (EXISTING OR PROPOSED):	SEE PLAN & VICINITY MAP

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

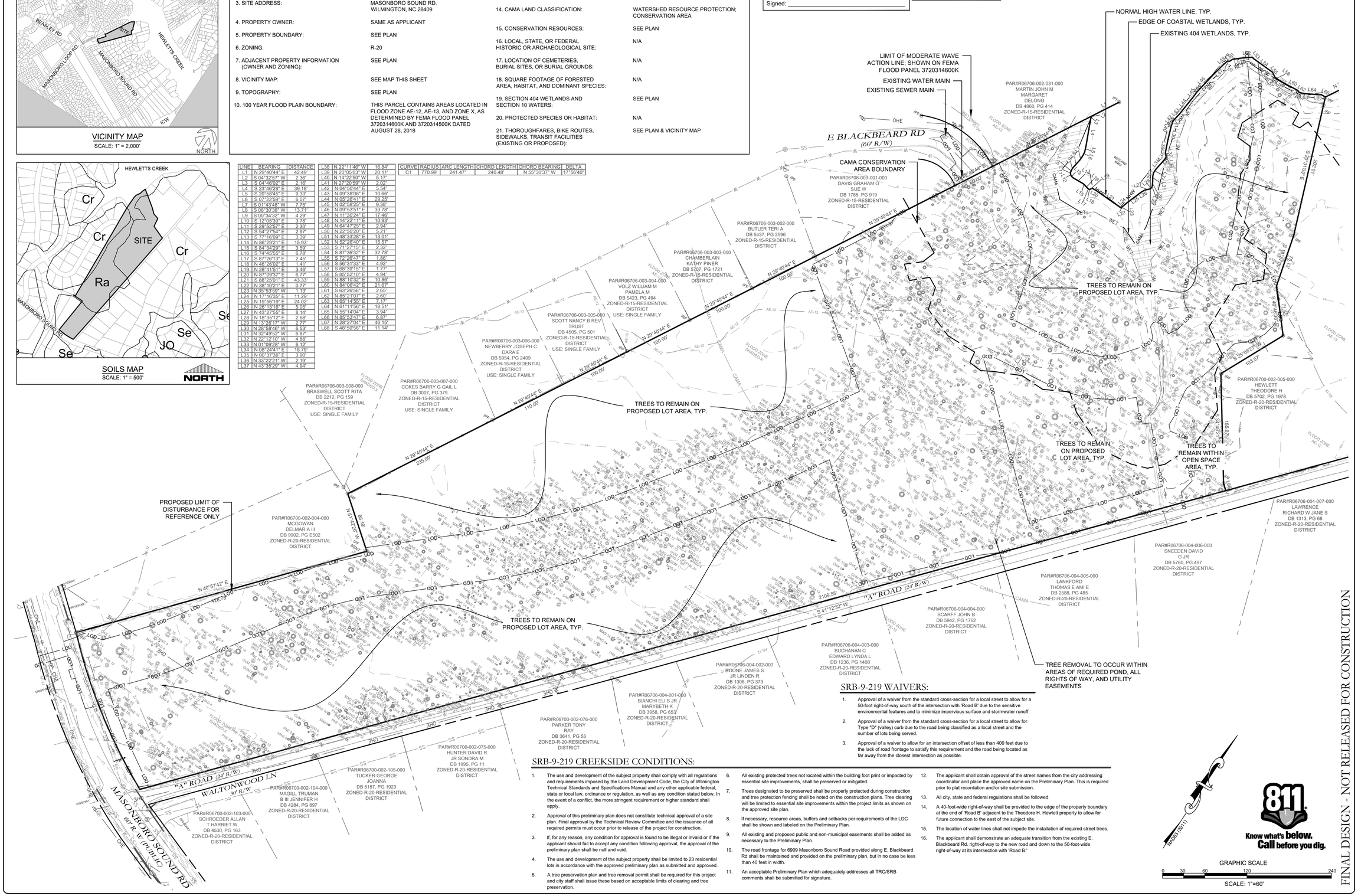
	Name	Date
Planning		
Traffic		
Fire		

SOILS MAP
SCALE: 1" = 500'

NORTH

LINE	BEARING	DISTANCE
L1	N 29°40'44" E	42.49'
L2	S 04°32'57" W	2.36'
L3	S 04°46'02" E	2.16'
L4	S 23°46'28" E	39.18'
L5	S 20°58'45" E	9.33'
L6	S 07°22'59" E	6.07'
L7	S 01°43'48" W	7.75'
L8	S 08°30'38" W	13.71'
L9	S 00°34'32" W	4.29'
L10	S 12°05'39" E	3.78'
L11	S 29°52'52" E	2.30'
L12	S 54°27'54" E	2.97'
L13	S 77°16'09" E	3.39'
L14	N 86°29'21" E	15.93'
L15	S 84°34'29" E	3.56'
L16	S 74°45'55" E	6.78'
L17	S 87°36'13" E	2.45'
L18	N 46°26'02" E	1.41'
L19	N 28°41'51" E	3.46'
L20	N 87°09'37" E	6.77'
L21	S 88°25'01" E	43.33'
L22	N 38°10'21" E	0.77'
L23	N 35°53'59" W	1.13'
L24	N 17°16'35" E	11.29'
L25	N 19°56'19" E	24.02'
L26	N 26°13'16" E	5.05'
L27	N 43°27'55" E	8.14'
L28	N 18°35'12" E	2.68'
L29	N 13°26'17" W	2.77'
L30	N 28°58'46" W	6.53'
L31	N 32°49'52" W	6.87'
L32	N 22°12'10" W	4.88'
L33	N 01°09'28" W	6.12'
L34	N 08°24'41" E	18.79'
L35	N 00°37'36" E	3.90'
L36	N 33°22'21" W	2.19'
L37	N 43°35'29" W	4.94'
L38	N 22°11'46" W	16.84'
L39	N 20°05'03" W	20.11'
L40	N 14°22'50" W	5.17'
L41	N 27°20'59" W	2.62'
L42	N 04°50'44" E	5.54'
L43	N 09°38'06" E	10.66'
L44	N 05°26'41" E	29.25'
L45	N 02°58'25" E	9.38'
L46	N 09°53'51" E	33.78'
L47	N 11°30'24" E	17.46'
L48	N 14°22'11" E	10.93'
L49	N 64°47'25" E	2.94'
L50	N 22°50'20" E	5.21'
L51	N 48°33'28" E	13.01'
L52	N 52°26'40" E	15.57'
L53	S 71°27'15" E	2.32'
L54	S 87°36'32" E	32.78'
L55	S 72°26'47" E	1.86'
L56	S 56°31'33" E	4.92'
L57	S 68°39'15" E	1.77'
L58	S 85°52'10" E	4.94'
L59	N 88°10'32" E	10.86'
L60	N 84°06'42" E	21.67'
L61	S 83°26'56" E	2.65'
L62	N 85°21'07" E	2.60'
L63	N 65°14'55" E	7.17'
L64	N 61°11'56" E	18.51'
L65	N 55°14'04" E	3.94'
L66	N 85°53'47" E	6.87'
L67	N 29°27'04" E	46.15'
L68	S 48°50'56" E	11.14'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA
C1	770.99'	241.47'	240.48'	N 55°30'37" W	17°56'40"



SRB-9-219 WAIVERS:

1. Approval of a waiver from the standard cross-section for a local street to allow for a 50-foot right-of-way south of the intersection with 'Road B' due to the sensitive environmental features and to minimize impervious surface and stormwater runoff.
2. Approval of a waiver from the standard cross-section for a local street to allow for Type "D" (valley) curb due to the road being classified as a local street and the number of lots being served.
3. Approval of a waiver to allow for an intersection offset of less than 400 feet due to the lack of road frontage to satisfy this requirement and the road being located as far away from the closest intersection as possible.

SRB-9-219 CREEKSIDE CONDITIONS:

1. The use and development of the subject property shall comply with all regulations and requirements imposed by the Land Development Code, the City of Wilmington Technical Standards and Specifications Manual and any other applicable federal, state or local law, ordinance or regulation, as well as any condition stated below. In the event of a conflict, the more stringent requirement or higher standard shall apply.
2. Approval of this preliminary plan does not constitute technical approval of a site plan. Final approval by the Technical Review Committee and the issuance of all required permits must occur prior to release of the project for construction.
3. If, for any reason, any condition for approval is found to be illegal or invalid or if the applicant should fail to accept any condition following approval, the approval of the preliminary plan shall be null and void.
4. The use and development of the subject property shall be limited to 23 residential lots in accordance with the approved preliminary plan as submitted and approved.
5. A tree preservation plan and tree removal permit shall be required for this project and city staff shall issue these based on acceptable limits of clearing and tree preservation.
6. All existing protected trees not located within the building foot print or impacted by essential site improvements, shall be preserved or mitigated.
7. Trees designated to be preserved shall be properly protected during construction and tree protection fencing shall be noted on the construction plans. Tree clearing will be limited to essential site improvements within the project limits as shown on the approved site plan.
8. If necessary, resource areas, buffers and setbacks per requirements of the LDC shall be shown and labeled on the Preliminary Plan.
9. All existing and proposed public and non-municipal easements shall be added as necessary to the Preliminary Plan.
10. The road frontage for 6909 Masonboro Sound Road provided along E. Blackbeard Rd shall be maintained and provided on the preliminary plan, but in no case be less than 40 feet in width.
11. An acceptable Preliminary Plan which adequately addresses all TRC/SRB comments shall be submitted for signature.
12. The applicant shall obtain approval of the street names from the city addressing coordinator and place the approved name on the Preliminary Plan. This is required prior to plat recordation and/or site submission.
13. All city, state and federal regulations shall be followed.
14. A 40-foot-wide right-of-way shall be provided to the edge of the property boundary at the end of 'Road B' adjacent to the Theodore H. Hewlett property to allow for future connection to the east of the subject site.
15. The location of water lines shall not impede the installation of required street trees.
16. The applicant shall demonstrate an adequate transition from the existing E. Blackbeard Rd. right-of-way to the new road and down to the 50-foot-wide right-of-way at its intersection with 'Road B.'

MARS (2011)

811 Know what's below. Call before you dig.

GRAPHIC SCALE
0 30 60 120 240
SCALE: 1"=60'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

1. PER COW TRC COMMENTS	04.26.19
2. PER COW TRC COMMENTS	05.22.19

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

SITE INVENTORY PLAN

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC, NEW HANOVER COUNTY

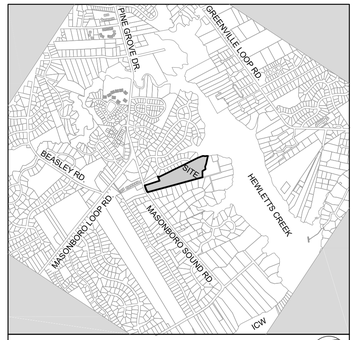
PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY PLAT:
FINAL DESIGN:
RELEASED FOR CONST

DRAWING INFORMATION
DATE: 3/12/19
SCALE: 1" = 60'
DESIGNED: JCM
DRAWN: DJF
CHECKED:

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER 040501 05.22.19 DANIEL J. FISH

C-2.0

PEI JOB#: 18390.PE



VICINITY MAP
SCALE: 1" = 2,000'

NORTH

SITE INFORMATION:

PARCEL ID:	R06700-002-136-000
CURRENT ZONING:	R-20
PROPOSED USE:	DETACHED SINGLE FAMILY RESIDENTIAL
PROJECT SITE AREA:	± 16.29 ACRES (± 709,639 SF)
OWNER INFORMATION:	SUNRISE LAND INVESTMENTS, LLC. 7923 REUNION DR WILMINGTON, NC 28411
FLOOD INFORMATION:	THIS PARCEL CONTAINS AREAS LOCATED IN FLOOD ZONE AE-12, AE-13, AND ZONE X, AS DETERMINED BY FEMA FLOOD PANEL 3720314600K AND 3720314500K DATED AUGUST 28, 2018
CAMA LAND USE CLASSIFICATION:	WATERSHED RESOURCE PROTECTION; CONSERVATION AREA

DIMENSIONAL REQUIREMENTS:

R-20

- MINIMUM LOT AREA:	20,000 SF
- MINIMUM LOT WIDTH:	80'
- MAXIMUM LOT COVERAGE:	50%
- MINIMUM FRONT SETBACK:	30'
- MINIMUM REAR SETBACK:	25'
- MINIMUM INTERIOR SIDE SETBACK:	15'
- MINIMUM CORNER LOT SIDE SETBACK:	20'
- MAXIMUM BUILDING HEIGHT:	35'

PROVIDED BUILDING SETBACKS:

- FRONT:	30'
- REAR:	25'
- INTERIOR SIDE:	15'
- CORNER LOT SIDE:	20'
- LOT COVERAGE	50% MAX.
- BUILDING HEIGHT:	35' MAX.

OPEN SPACE DATA:

REQUIRED:	0.03 AC/ LOT OR UNIT 23 LOTS X 0.03 AC = 0.69 AC OR 30,056 SF
PROVIDED:	0.79 AC OR 34,353 SF
ACTIVE:	15,028 SF
PASSIVE:	19,325 SF

GENERAL NOTES

1. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/ OR NCDOT STANDARDS.
2. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.
3. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT OF WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
6. ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30" - 10'.
7. CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
8. IT SHALL BE THE RESPONSIBILITY OF THE SUB-DIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE EITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUB-DIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUB-DIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.

IMPERVIOUS DATA:

IMPERVIOUS AREA:	
EXISTING IMPERVIOUS:	0 SF
PROPOSED LOTS (23 TOTAL):	141,200 SF
PROPOSED PAVEMENT:	58,390 SF
PROPOSED SIDEWALKS:	20,800 SF
MISC. / FUTURE IMPERVIOUS:	21,520 SF
TOTAL IMPERVIOUS:	241,910 SF
COASTAL WETLANDS:	8,356 SF
PROJECT % IMPERVIOUS (241,910/(709,639-8356))	34.1 %

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA
C1	575.00'	76.93'	76.87'	N 37°07'44" E	7°39'56"
C2	525.00'	84.69'	84.60'	N 37°55'02" E	9°14'33"
C3	770.99'	30.01'	30.01'	S 47°39'12" E	2°13'49"
C4	1975.00'	51.83'	51.83'	N 34°32'14" E	1°30'13"
C5	25.00'	35.49'	32.58'	S 42°32'41" W	81°19'39"
C6	1975.00'	75.46'	75.45'	N 32°41'28" E	2°11'09"
C7	925.00'	31.54'	31.53'	S 36°15'57" W	1°57'12"
C8	200.00'	125.02'	123.00'	S 65°18'01" W	35°48'59"
C9	210.00'	61.71'	61.48'	N 23°10'43" E	16°50'08"
C10	625.00'	9.22'	9.22'	S 33°43'06" W	0°50'41"
C11	925.00'	130.11'	130.00'	S 41°16'19" W	8°03'33"
C12	925.00'	52.00'	52.00'	S 46°54'44" W	3°13'16"
C13	210.00'	274.67'	255.50'	N 22°42'32" W	74°56'22"
C14	2025.00'	79.34'	79.33'	S 34°10'00" W	2°14'42"
C15	525.00'	4.76'	4.76'	N 48°15'47" E	0°31'09"
C16	875.00'	17.44'	17.44'	N 47°57'06" E	1°08'30"
C17	2025.00'	51.17'	51.17'	S 32°19'13" W	1°26'52"
C18	770.99'	161.43'	161.13'	S 58°29'04" E	11°59'47"
C19	625.00'	74.40'	74.36'	S 37°33'04" W	6°49'15"
C20	475.00'	39.40'	39.39'	S 46°08'46" W	4°45'11"
C21	475.00'	86.83'	86.71'	S 38°31'58" W	10°28'25"
C22	875.00'	38.79'	38.79'	N 36°33'33" E	2°32'24"
C23	50.00'	76.22'	69.05'	S 84°03'05" E	87°20'28"
C24	875.00'	145.70'	145.70'	N 42°36'18" E	9°32'06"
C25	160.00'	144.97'	140.08'	N 57°15'04" E	51°54'52"
C26	265.00'	203.76'	198.78'	S 38°09'04" E	44°03'17"
C27	25.00'	35.20'	32.36'	S 56°27'27" E	80°40'04"
C28	160.00'	67.28'	66.79'	N 19°14'49" E	24°05'39"
C29	25.00'	26.01'	24.85'	N 22°38'09" W	59°36'15"
C30	50.00'	91.35'	79.17'	N 00°03'46" W	104°40'57"
C31	50.00'	35.33'	34.60'	S 33°15'47" W	40°29'20"
C32	25.00'	21.37'	20.72'	S 29°01'16" W	48°58'22"
C33	200.00'	149.60'	146.14'	S 25°57'48" W	42°51'27"
C34	260.00'	134.84'	133.34'	S 16°44'19" W	29°42'56"
C35	770.99'	50.03'	50.02'	S 50°37'38" E	3°43'04"

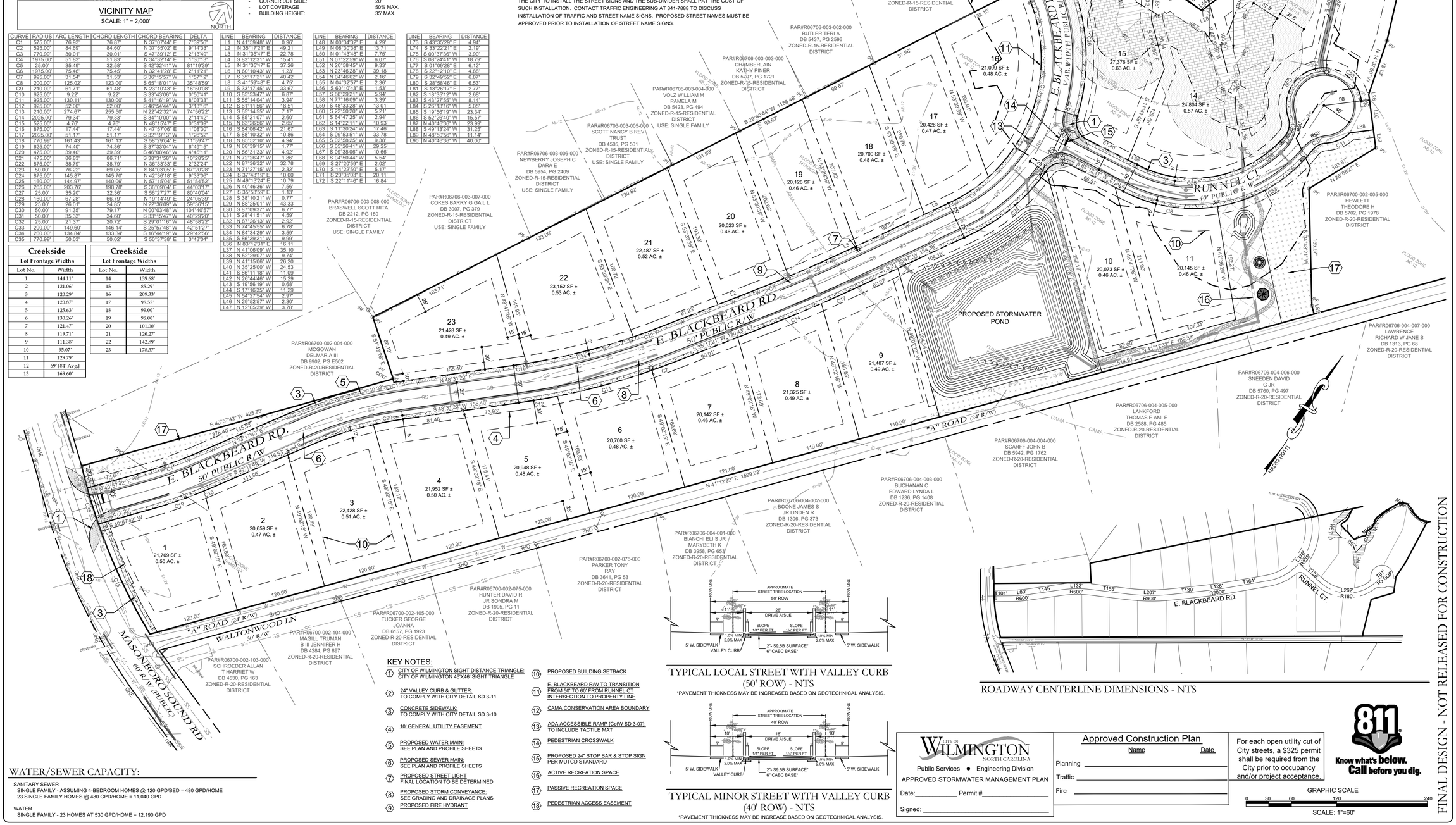
LINE	BEARING	DISTANCE
L1	N 41°59'48" W	0.96'
L2	N 35°17'21" E	49.21'
L3	N 31°35'47" E	22.78'
L4	S 83°12'31" W	15.41'
L5	N 31°35'47" E	37.26'
L6	N 60°10'43" W	1.23'
L7	S 35°17'21" W	40.42'
L8	S 41°59'48" E	4.75'
L9	S 83°17'45" W	33.67'
L10	S 85°53'47" W	6.87'
L11	S 55°14'04" W	3.94'
L12	S 60°11'56" W	18.51'
L13	S 65°14'55" W	7.17'
L14	S 85°21'07" W	2.60'
L15	N 63°26'56" W	2.65'
L16	S 84°06'42" W	21.67'
L17	S 88°10'32" W	10.86'
L18	N 85°52'10" W	4.94'
L19	N 68°39'15" W	1.77'
L20	N 56°31'33" W	4.92'
L21	N 72°26'03" W	1.86'
L22	N 87°36'32" W	32.78'
L23	N 71°27'15" W	2.32'
L24	S 37°43'19" E	10.00'
L25	N 49°13'24" E	10.79'
L26	N 40°46'36" W	7.56'
L27	S 35°53'09" E	1.13'
L28	S 38°10'21" W	0.77'
L29	N 88°25'01" W	43.33'
L30	S 87°09'37" W	6.77'
L31	S 28°41'51" W	4.59'
L32	N 87°26'13" W	2.92'
L33	N 74°45'55" W	6.78'
L34	N 84°34'29" W	3.59'
L35	S 86°29'21" W	9.99'
L36	N 83°12'31" E	16.11'
L37	N 41°06'09" W	35.10'
L38	N 52°29'07" W	9.74'
L39	N 41°15'06" W	26.20'
L40	N 35°25'00" W	24.53'
L41	S 86°11'18" W	11.09'
L42	N 26°44'46" W	15.29'
L43	S 19°56'19" W	0.68'
L44	S 17°16'35" W	11.29'
L45	N 54°27'54" W	2.97'
L46	N 29°52'57" W	2.30'
L47	N 12°05'39" W	3.78'

LINE	BEARING	DISTANCE
L48	N 00°34'32" E	4.29'
L49	N 08°30'38" E	13.71'
L50	N 01°43'48" E	7.75'
L51	N 07°22'59" W	6.07'
L52	N 20°58'45" W	9.33'
L53	N 23°46'28" W	39.18'
L54	N 04°46'02" W	2.16'
L55	N 04°32'57" E	2.36'
L56	S 60°10'43" E	1.53'
L57	S 86°29'21" W	5.94'
L58	N 77°16'09" W	3.39'
L59	S 48°33'28" W	13.01'
L60	S 22°50'20" W	5.21'
L61	S 64°47'25" W	2.94'
L62	S 14°22'11" W	10.93'
L63	S 11°30'24" W	17.46'
L64	S 09°53'51" W	33.78'
L65	S 02°58'25" W	9.38'
L66	S 05°26'41" W	29.25'
L67	S 09°38'06" W	10.66'
L68	S 04°56'44" W	5.54'
L69	S 27°20'59" E	2.02'
L70	S 14°22'50" E	5.17'
L71	S 20°05'03" E	20.11'
L72	S 22°11'46" E	16.84'

LINE	BEARING	DISTANCE
L73	S 43°35'29" E	4.94'
L74	S 33°22'21" E	2.19'
L75	S 00°37'36" W	3.90'
L76	S 08°24'41" W	18.79'
L77	S 01°09'28" E	6.12'
L78	S 22°12'16" E	4.88'
L79	S 32°49'52" E	6.87'
L80	S 28°58'46" E	6.53'
L81	S 13°26'17" E	2.77'
L82	S 18°35'12" W	2.68'
L83	S 43°27'55" W	8.14'
L84	S 26°13'16" W	5.05'
L85	S 19°56'19" W	23.34'
L86	S 52°26'40" W	15.57'
L87	N 40°46'36" W	23.99'
L88	S 49°13'24" W	31.25'
L89	N 48°50'56" W	11.14'
L90	N 40°46'36" W	40.00'

Creekside Lot Frontage Widths	
Lot No.	Width
1	144.11'
2	121.06'
3	120.29'
4	120.57'
5	125.63'
6	130.26'
7	121.47'
8	119.71'
9	111.38'
10	95.07'
11	129.79'
12	69' [84' Avg.]
13	169.60'

Creekside Lot Frontage Widths	
Lot No.	Width
14	139.68'
15	85.29'
16	209.33'
17	98.57'
18	99.00'
19	98.00'
20	101.00'
21	120.27'
22	142.89'
23	178.37'



KEY NOTES:

1. CITY OF WILMINGTON SIGHT DISTANCE TRIANGLE: CITY OF WILMINGTON 46'X46' SIGHT TRIANGLE
2. 24" VALLEY CURB & GUTTER: TO COMPLY WITH CITY DETAIL SD 3-11
3. CONCRETE SIDEWALK: TO COMPLY WITH CITY DETAIL SD 3-10
4. 10' GENERAL UTILITY EASEMENT
5. PROPOSED WATER MAIN: SEE PLAN AND PROFILE SHEETS
6. PROPOSED SEWER MAIN: SEE PLAN AND PROFILE SHEETS
7. PROPOSED STREET LIGHT FINAL LOCATION TO BE DETERMINED
8. PROPOSED STORM CONVEYANCE: SEE GRADING AND DRAINAGE PLANS
9. PROPOSED FIRE HYDRANT
10. PROPOSED BUILDING SETBACK
11. E. BLACKBEARD R/W TO TRANSITION FROM 50' TO 60' FROM RUNNEL CT INTERSECTION TO PROPERTY LINE
12. CAMA CONSERVATION AREA BOUNDARY
13. ADA ACCESSIBLE RAMP [CofW SD 3-07]: TO INCLUDE TACTILE MAT
14. PEDESTRIAN CROSSWALK
15. PROPOSED 24" STOP BAR & STOP SIGN PER MUTCD STANDARD
16. ACTIVE RECREATION SPACE
17. PASSIVE RECREATION SPACE
18. PEDESTRIAN ACCESS EASEMENT

TYPICAL LOCAL STREET WITH VALLEY CURB (50' ROW) - NTS

*PAVEMENT THICKNESS MAY BE INCREASED BASED ON GEOTECHNICAL ANALYSIS.

TYPICAL MINOR STREET WITH VALLEY CURB (40' ROW) - NTS

*PAVEMENT THICKNESS MAY BE INCREASE BASED ON GEOTECHNICAL ANALYSIS.

ROADWAY CENTERLINE DIMENSIONS - NTS

WATER/SEWER CAPACITY:

SANITARY SEWER
SINGLE FAMILY - ASSUMING 4-BEDROOM HOMES @ 120 GPD/BED = 480 GPD/HOME
23 SINGLE FAMILY HOMES @ 480 GPD/HOME = 11,040 GPD

WATER
SINGLE FAMILY - 23 HOMES AT 530 GPD/HOME = 12,190 GPD

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit #_____
Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

811 Know what's below. Call before you dig.

GRAPHIC SCALE
0 30 60 120 240
SCALE: 1"=60'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:	
1. PER CofW ENGINEERING COMMENTS	04.22.19
2. PER CofW TRC COMMENTS	04.29.19
3. PER CofW TRC COMMENTS	05.22.19

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

SITE PLAN

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

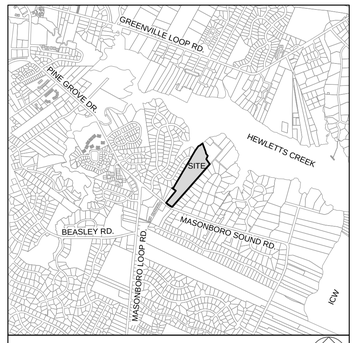
PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY PLAT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 3/15/19
SCALE: 1" = 60'
DESIGNED: JCM
DRAWN: DJF
CHECKED:

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040501 DANIEL J. FISK 05.22.19

C-2.1

PEI JOB#: 18390.PE

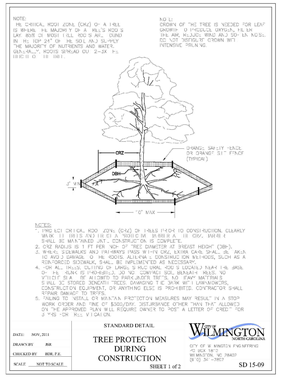


VICINITY MAP
SCALE: 1" = 2,000'

NORTH

NOTES:

SEE SHEETS C-2.4 FOR TREE REMOVAL SCHEDULE.

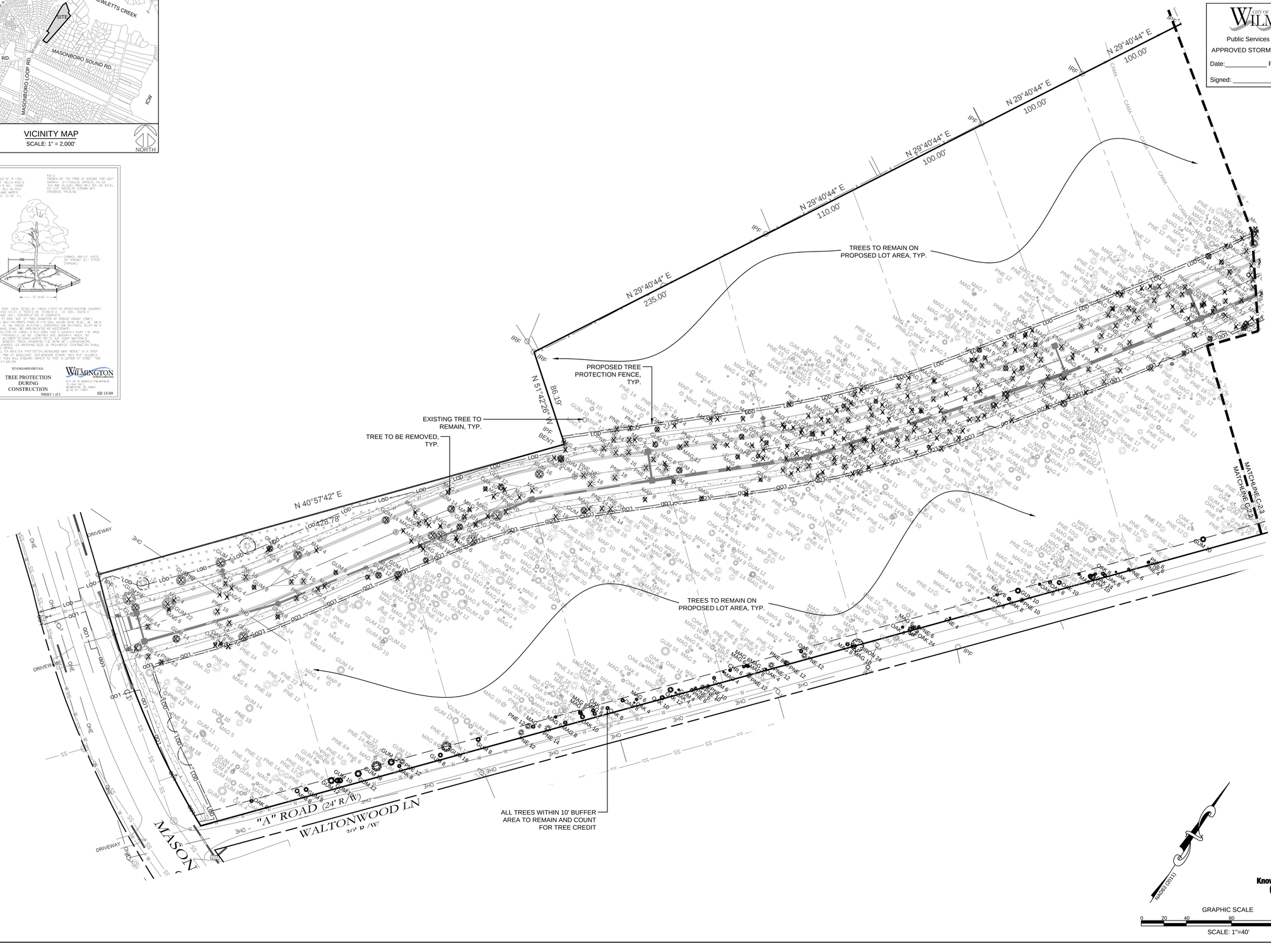


For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____



811 Know what's below. Call before you dig.

GRAPHIC SCALE
0 20 40 80 160
SCALE: 1"=40'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:
REV 1: REVISED PER TRC COMMENTS — 5/16/19

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

TREE REMOVAL PLAN

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

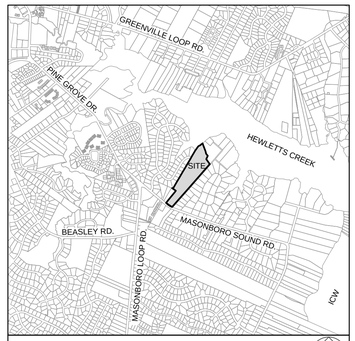
PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL:
RELEASED FOR CONST.:

DRAWING INFORMATION
DATE: 05.16.19
SCALE: 1" = 40'
DESIGNED: JCM
DRAWN: JCM
CHECKED: DJF

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 028847 ENGINEER TIMOTHY G. CLINESCALES
05/16/19

C-2.2

PEI JOB#: 18390.PE



VICINITY MAP
SCALE: 1" = 2,000'
NORTH

SITE INFORMATION:

PARCEL ID:	R06700-002-136-000
CURRENT ZONING:	R-20
PROPOSED USE:	DETACHED SINGLE FAMILY RESIDENTIAL
PROJECT SITE AREA:	± 16.29 ACRES (± 709,592 SF)
OWNER INFORMATION:	SUNSET LAND INVESTMENTS, LLC. 6310 SEA MIST CT WILMINGTON, NC 28409
FLOOD INFORMATION:	THIS PARCEL CONTAINS AREAS LOCATED IN FLOOD ZONE AE-12, AE-13, AND ZONE X, AS DETERMINED BY FEMA FLOOD PANEL 3720314600K AND 3720314500K DATED AUGUST 28, 2018
CAMA LAND USE CLASSIFICATION:	WATERSHED RESOURCE PROTECTION; CONSERVATION AREA

NOTES:

SEE SHEETS C-2.4 FOR TREE REMOVAL SCHEDULE.

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

GRAPHIC SCALE
0 20 40 80 160
SCALE: 1"=40'

GRADES (2011)

811 Know what's below. Call before you dig.

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:
REV 1: REVISED PER TRC COMMENTS — 5/16/19

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNT ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

TREE REMOVAL PLAN

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 04-23-19
SCALE: 1"= 40'
DESIGNED: JCM
DRAWN: JCM
CHECKED: TGC

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 028847 ENGINEER TIMOTHY G. CLINKSCALES
05/16/19

C-2.3

PEI JOB#: 18390.PE

Creekside Tree Removal & Required Mitigation

Qty of Trees	Caliper Inches*		Individual Trunk Calipers AND Individual Cluster Trunks					Tree Common Name	City Tree Type Classification	Total Cal. Inches to be Removed	% Mitigation	Significant	Location	Essential Site Improvements	Total Qty. of Mitigation Trees Required
Note: * All listed as total caliper inches for entire tree cluster or single tree trunk caliper in compliance with City of Wilmington Land Development Code definition for " diameter at breast height"															
Essential Site Improvements: It is anticipated that all trees will be removed for essential site improvements, so only significant trees require mitigation															
REGULATED & SIGNIFICANT TREES															
Category 1 (100% Mitigation)															
6	4	4						AH (AMERICAN HOLLY)	hardwood	24	100%		Roadway	yes	
2	5	5						AH (AMERICAN HOLLY)	hardwood	10	100%		Roadway	yes	
1	6	6						AH (AMERICAN HOLLY)	hardwood	6	100%		Roadway	yes	
1	7	8						AH (AMERICAN HOLLY)	hardwood	7	100%		Roadway	yes	
87	4	4						MAG (SOUTHERN MAGNOLIA)	flowering	348	100%		Roadway	yes	
56	5	5						MAG (SOUTHERN MAGNOLIA)	flowering	280	100%		Roadway	yes	
40	6	6						MAG (SOUTHERN MAGNOLIA)	flowering	240	100%		Roadway	yes	
18	7	7						MAG (SOUTHERN MAGNOLIA)	flowering	126	100%		Roadway	yes	
3	9	9						MAG (SOUTHERN MAGNOLIA)	flowering	27	100%	yes	Roadway	yes	18
5	10	10						MAG (SOUTHERN MAGNOLIA)	flowering	50	100%	yes	Roadway	yes	33
2	11	11						MAG (SOUTHERN MAGNOLIA)	flowering	22	100%	yes	Roadway	yes	15
3	12	12						MAG (SOUTHERN MAGNOLIA)	flowering	36	100%	yes	Roadway	yes	24
1	13	13						MAG (SOUTHERN MAGNOLIA)	flowering	13	100%	yes	Roadway	yes	9
1	14	14						MAG (SOUTHERN MAGNOLIA)	flowering	14	100%	yes	Roadway	yes	9
4	8	8						MAP (RED MAPLE)	hardwood	32	100%		Roadway	yes	
1	9	9						MAP (RED MAPLE)	hardwood	9	100%		Roadway	yes	
3	10	10						MAP (RED MAPLE)	hardwood	30	100%		Roadway	yes	
1	11	11						MAP (RED MAPLE)	hardwood	11	100%		Roadway	yes	
1	12	12						MAP (RED MAPLE)	hardwood	12	100%		Roadway	yes	
1	17	17						MAP (RED MAPLE)	hardwood	17	100%		Roadway	yes	
6	12	12						OAK (WATER OAK)	hardwood	72	100%		Roadway	yes	
4	13	13						OAK (WATER OAK)	hardwood	52	100%		Roadway	yes	
6	18	18						OAK (WATER OAK)	hardwood	108	100%		Roadway	yes	
3	12	12						OAK (WATER OAK)	hardwood	36	100%		Roadway	yes	
1	13	13						OAK (WATER OAK)	hardwood	13	100%		Roadway	yes	
1	18	18						OAK (WATER OAK)	hardwood	18	100%		Roadway	yes	
19	4	4						MAG (SOUTHERN MAGNOLIA)	flowering	76	100%		Grading	yes	
6	5	5						MAG (SOUTHERN MAGNOLIA)	flowering	30	100%		Grading	yes	
22	6	6						MAG (SOUTHERN MAGNOLIA)	flowering	132	100%		Grading	yes	
6	7	7						MAG (SOUTHERN MAGNOLIA)	flowering	42	100%		Grading	yes	
3	8	8						MAG (SOUTHERN MAGNOLIA)	flowering	24	100%	yes	Grading	yes	16
2	10	10						MAG (SOUTHERN MAGNOLIA)	flowering	20	100%	yes	Grading	yes	13
1	11	11						MAG (SOUTHERN MAGNOLIA)	flowering	11	100%	yes	Grading	yes	7
1	12	12						MAG (SOUTHERN MAGNOLIA)	flowering	12	100%	yes	Grading	yes	8
1	14	14						MAG (SOUTHERN MAGNOLIA)	flowering	14	100%	yes	Grading	yes	9
3	8	8						MAP (RED MAPLE)	hardwood	24	100%		Grading	yes	
1	9	9						MAP (RED MAPLE)	hardwood	9	100%		Grading	yes	
1	16	16						MAP (RED MAPLE)	hardwood	16	100%		Grading	yes	
2	8	8						OAK (WATER OAK)	hardwood	16	100%		Grading	yes	
1	9	9						OAK (WATER OAK)	hardwood	9	100%		Grading	yes	
1	11	11						OAK (WATER OAK)	hardwood	11	100%		Grading	yes	
2	12	12						OAK (WATER OAK)	hardwood	24	100%		Grading	yes	
1	14	14						OAK (WATER OAK)	hardwood	14	100%		Grading	yes	
1	18	18						OAK (WATER OAK)	hardwood	18	100%		Grading	yes	
1	22	24						OAK (WATER OAK)	hardwood	22	100%		Grading	yes	
19	4	4						MAG (SOUTHERN MAGNOLIA)	flowering	76	100%		Stormwater	yes	
7	5	5						MAG (SOUTHERN MAGNOLIA)	flowering	35	100%		Stormwater	yes	
9	6	6						MAG (SOUTHERN MAGNOLIA)	flowering	54	100%		Stormwater	yes	
3	7	7						MAG (SOUTHERN MAGNOLIA)	flowering	21	100%		Stormwater	yes	
1	10	10						MAG (SOUTHERN MAGNOLIA)	flowering	10	100%	yes	Stormwater	yes	7
1	13	13						MAG (SOUTHERN MAGNOLIA)	flowering	13	100%	yes	Stormwater	yes	9
1	8	8						MAP (RED MAPLE)	hardwood	8	100%		Stormwater	yes	
1	9	9						MAP (RED MAPLE)	hardwood	9	100%		Stormwater	yes	
1	10	10						MAP (RED MAPLE)	hardwood	10	100%		Stormwater	yes	
1	11	11						MAP (RED MAPLE)	hardwood	11	100%		Stormwater	yes	
1	16	16						MAP (RED MAPLE)	hardwood	16	100%		Stormwater	yes	
1	17	17						MAP (RED MAPLE)	hardwood	17	100%		Stormwater	yes	
1	8	8						OAK (WATER OAK)	hardwood	8	100%		Stormwater	yes	
1	12	12						OAK (WATER OAK)	hardwood	12	100%		Stormwater	yes	
1	14	14						OAK (WATER OAK)	hardwood	14	100%		Stormwater	yes	
Total Category 1 Significant & Regulated Mitigation Trees Required:															177
Total Category 1 Regulated Trees To Be Removed with Essential Site Improvements:															382

Category 2 (75% Mitigation)

19	8	8						GUM (SWEET GUM)	hardwood	152	75%		Roadway	yes	
15	9	9						GUM (SWEET GUM)	hardwood	135	75%		Roadway	yes	
11	10	10						GUM (SWEET GUM)	hardwood	110	75%		Roadway	yes	
17	11	11						GUM (SWEET GUM)	hardwood	187	75%		Roadway	yes	
14	12	12						GUM (SWEET GUM)	hardwood	168	75%		Roadway	yes	
4	13	13						GUM (SWEET GUM)	hardwood	52	75%		Roadway	yes	
8	14	14						GUM (SWEET GUM)	hardwood	112	75%		Roadway	yes	
10	15	15						GUM (SWEET GUM)	hardwood	150	75%		Roadway	yes	
3	16	16						GUM (SWEET GUM)	hardwood	48	75%		Roadway	yes	
3	17	17						GUM (SWEET GUM)	hardwood	51	75%		Roadway	yes	
4	18	18						GUM (SWEET GUM)	hardwood	72	75%		Roadway	yes	
1	19	19						GUM (SWEET GUM)	hardwood	19	75%		Roadway	yes	
6	20	20						GUM (SWEET GUM)	hardwood	120	75%		Roadway	yes	
1	22	20						GUM (SWEET GUM)	hardwood	22	75%		Roadway	yes	
1	24	24						GUM (SWEET GUM)	hardwood	24	75%	yes	Roadway	yes	12
1	28	28						GUM (SWEET GUM)	hardwood	28	75%	yes	Roadway	yes	14
15	8	8						GUM (SWEET GUM)	hardwood	120	75%		Grading	yes	
1	9	9						GUM (SWEET GUM)	hardwood	9	75%		Grading	yes	
7	10	10						GUM (SWEET GUM)	hardwood	70	75%		Grading	yes	
1	11	11						GUM (SWEET GUM)	hardwood	11	75%		Grading	yes	
3	12	12						GUM (SWEET GUM)	hardwood	36	75%		Grading	yes	
3	13	13						GUM (SWEET GUM)	hardwood	39	75%		Grading	yes	
4	14	14						GUM (SWEET GUM)	hardwood	56	75%		Grading	yes	
1	15	15						GUM (SWEET GUM)	hardwood	15	75%		Grading	yes	
2	18	18						GUM (SWEET GUM)	hardwood	36	75%		Grading	yes	
8	8	8						GUM (SWEET GUM)	hardwood	64	75%		Stormwater	yes	
3	9	9						GUM (SWEET GUM)	hardwood	27	75%		Stormwater	yes	
4	10	10						GUM (SWEET GUM)	hardwood	40	75%		Stormwater	yes	
3	11	11						GUM (SWEET GUM)	hardwood	33	75%		Stormwater	yes	
7	12	12						GUM (SWEET GUM)	hardwood	84	75%		Stormwater	yes	
4	13	13						GUM (SWEET GUM)	hardwood	52	75%		Stormwater	yes	
6	14	14						GUM (SWEET GUM)	hardwood	84	75%		Stormwater	yes	
1	15	15						GUM (SWEET GUM)	hardwood	15	75%		Stormwater	yes	
1	16	16						GUM (SWEET GUM)	hardwood	16	75%		Stormwater	yes	
3	18	18						GUM (SWEET GUM)	hardwood	54	75%		Stormwater	yes	
Total Category 2 Significant & Regulated Mitigation Trees Required:															26
Total Category 2 Regulated Trees To Be Removed with Essential Site Improvements:															195

Category 3 (50% Mitigation)

1	5	5						CHR (BLACK CHERRY)	flowering	5	50%		Roadway	yes	
3	7	7						CHR (BLACK CHERRY)	flowering	21	50%		Roadway	yes	
81	12	12						PNE (LOBLOLLY)	conifer	972	50%		Roadway	yes	
35	13	13						PNE (LOBLOLLY)	conifer	455	50%		Roadway	yes	
39	14	14						PNE (LOBLOLLY)	conifer	546	50%		Roadway	yes	
18	15	15						PNE (LOBLOLLY)	conifer	270	50%		Roadway	yes	
14	16	16						PNE (LOBLOLLY)	conifer	224	50%		Roadway	yes	
9	17	17						PNE (LOBLOLLY)	conifer	153	50%		Roadway	yes	
14	18	18						PNE (LOBLOLLY)	conifer	252	50%		Roadway	yes	
3	19	19						PNE (LOBLOLLY)	conifer	57	50%		Roadway	yes	
2	20	20						PNE (LOBLOLLY)	conifer	40	50%		Roadway	yes	
1	21	21						PNE (LOBLOLLY)	conifer	21	50%		Roadway	yes	
9	12	12						PNE (LOBLOLLY)	conifer	108	50%		Grading	yes	
4	13	13						PNE (LOBLOLLY)	conifer	52	50%		Grading	yes	
12	14	14						PNE (LOBLOLLY)	conifer	168	50%		Grading	yes	
2	15	15						PNE (LOBLOLLY)	conifer	30	50%		Grading	yes	
3	16	16						PNE (LOBLOLLY)	conifer	48	50%		Grading	yes	
1	17	17						PNE (LOBLOLLY)	conifer	17	50%		Grading	yes	
4	18	18						PNE (LOBLOLLY)	conifer	72	50%		Grading	yes	
2	20	20						PNE (LOBLOLLY)	conifer	40	50%		Grading	yes	
1	21	21						PNE (LOBLOLLY)	conifer	21	50%		Grading	yes	
1	7	7						CHR (BLACK CHERRY)	flowering	7	50%		Stormwater	yes	
48	12	12						PNE (LOBLOLLY)	conifer	576	50%		Stormwater	yes	
12	13	13						PNE (LOBLOLLY)	conifer	156	50%		Stormwater	yes	
29	14	14						PNE (LOBLOLLY)	conifer	406	50%		Stormwater	yes	
11	15	15						PNE (LOBLOLLY)	conifer	165	50%		Stormwater	yes	
11	16	16						PNE (LOBLOLLY)	conifer	176	50%		Stormwater	yes	
2	17	17						PNE (LOBLOLLY)	conifer	34	50%		Stormwater	yes	
5	18	18						PNE (LOBLOLLY)	conifer	90	50%		Stormwater	yes	
2	19	19						PNE (LOBLOLLY)	conifer	38	50%		Stormwater	yes	
3	20	20						PNE (LOBLOLLY)	conifer	60	50%		Stormwater	yes	
Total Category 3 Significant & Regulated Mitigation Trees Required:															0
Total Category 3 Regulated Trees To Be Removed with Essential Site Improvements:															382

Total Qty. of Trees to be Removed (essential site improvements):	959
Total Qty. of Significant & Regulated Tree Mitigation:	203
Total Tree Credits:	311
Total Qty. of Mitigation Trees Required on Site (or Pay in Lieu Equivalent):	**0**

Creekside Tree Preservation Credit

Qty of Trees	Caliper Inches *	Tree Common Name	Total Tree Caliper Inches to be Preserved	City Tree Mitigation Credit	Mitigation Credit for Preserved Trees (# of trees)
Note: * All listed as total caliper inches for entire tree cluster or single tree trunk caliper in compliance with City of Wilmington Land Development Code definition for " diameter at breast height"					
1	4	CHERRY	4	1	1
2	6	CHERRY	12	2	4
1	7	CHERRY	7	2	2
1	10	CHERRY	10	2	2
1	21	CHERRY	21	4	4
1	4	GUM	4	1	1
2	6	GUM	12	2	4
5	8	GUM	40	2	10
6	9	GUM	54	2	12
5	10	GUM	50	2	10
2	11	GUM	22	2	4
4	12	GUM	48	3	12
2	13	GUM	26	3	6
2	18	GUM	36	4	8
1	24	IRONWOOD	24	4	4
12	4	MAGNOLIA	48	1	12
4	5	MAGNOLIA	20	1	4
12	6	MAGNOLIA	72	2	24
7	8	MAGNOLIA	56	2	14
1	10	MAGNOLIA	10	2	2
1	8	MIMOSA	8	2	2
4	4	OAK	16	1	4
2	6	OAK	12	2	4
13	8	OAK	104	2	26
2	9	OAK	18	2	4
4	10	OAK	40	2	8
1	12	OAK	12	3	3
1	14	OAK	14	3	3
1	17	OAK	17	3	3
1	24	OAK	24	4	4
2	4	PINE	8	1	2
5	6	PINE	30	2	10
2	8	PINE	16	2	4
3	10	PINE	30	2	6
12	12	PINE	144	3	36
5	13	PINE	65	3	15
3	14	PINE	42	3	9
6	15	PINE	90	3	18
2	16	PINE	32	3	6
1	18	PINE	18	4	4
TOTAL CALIPER INCHES RETAINED ON SITE			1316		
				TOTAL TREE CREDITS	**311**

NOTES:

SEE SHEETS C-2.2 - C-2.3 FOR TREE REMOVAL LOCATIONS.

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

Name Date

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON NORTH CAROLINA

Public Services ● Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date:_____ Permit #_____

Signed: _____

811 Know what's below. Call before you dig.

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:
REV 1: REVISED PER TRC COMMENTS 5/16/19

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

TREE REMOVAL PLAN

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 04/29/19
SCALE: 1" = 40'
DESIGNED: JCM
DRAWN: JCM
CHECKED: TGC

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 028847 ENGINEER TIMOTHY G. CLINKSCALES
05/16/19

C-2.4

PEI JOB#: 18390.PE

NOTES:

1.) SEE GENERAL NOTES SHEET (C-1.0) FOR GRADING, DRAINAGE AND EROSION CONTROL NOTES AND DETAILS FOR MORE INFORMATION.

2.) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON AND NEW HANOVER COUNTY STANDARDS AND SPECIFICATIONS.

3.) IT IS RECOMMENDED THAT GEOTECHNICAL TESTING BE PERFORMED ON-SITE. A GEOTECHNICAL ENGINEER SHALL BE CONSULTED TO CONFIRM SUITABILITY OF SUBGRADE MATERIAL AND PROPER COMPACTION IN FILL AREAS.

4.) ALL GRADE TIE-INS, ROAD CONNECTIONS, AND UTILITY CONNECTIONS SHALL BE FIELD VERIFIED TO CONFIRM THAT THE AS-BUILT CONDITIONS MATCH THE DESIGN CONDITIONS AS DEPICTED. CONTRACTOR SHALL CONTACT THE OWNER AND ENGINEER WITH ANY DISCREPANCIES.

ASPHALT AREA NOTE:

1.) SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

BUILDING PAD NOTE:

1.) SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

EROSION CONTROL NOTES:

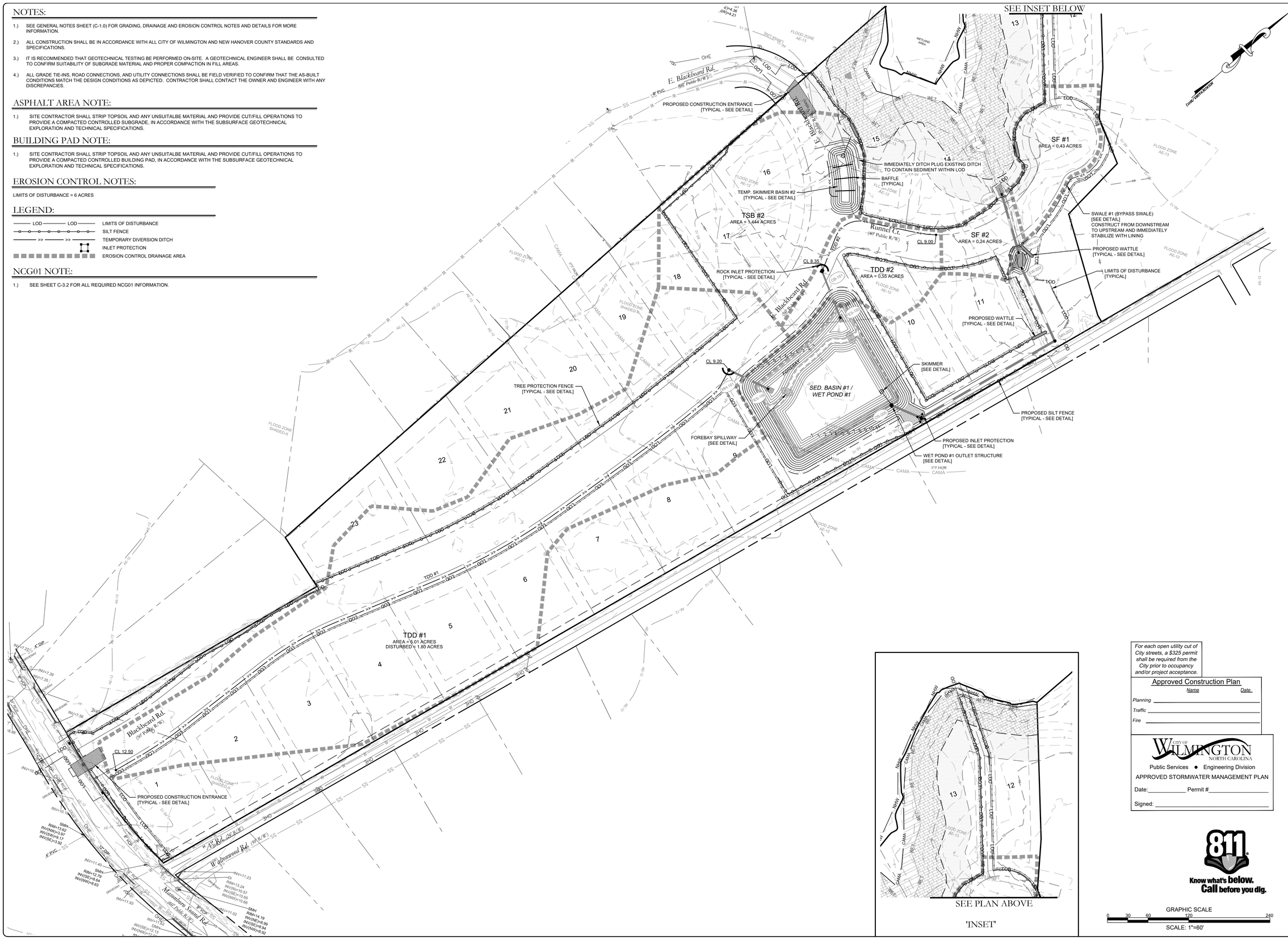
LIMITS OF DISTURBANCE = 6 ACRES

LEGEND:

- LOD LOD — LIMITS OF DISTURBANCE
- SILT FENCE
- >> >> — TEMPORARY DIVERSION DITCH
- INLET PROTECTION
- EROSION CONTROL DRAINAGE AREA

NCG01 NOTE:

1.) SEE SHEET C-3.2 FOR ALL REQUIRED NCG01 INFORMATION.



For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date:_____ Permit #_____

Signed: _____

Know what's below. Call before you dig.

GRAPHIC SCALE

0 30 60 120 240

SCALE: 1"=60'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

1. PER NHC ENGINEERING COMMENTS	04.18.19

CLIENT INFORMATION:

SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

EROSION CONTROL PLAN
PHASE I
CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

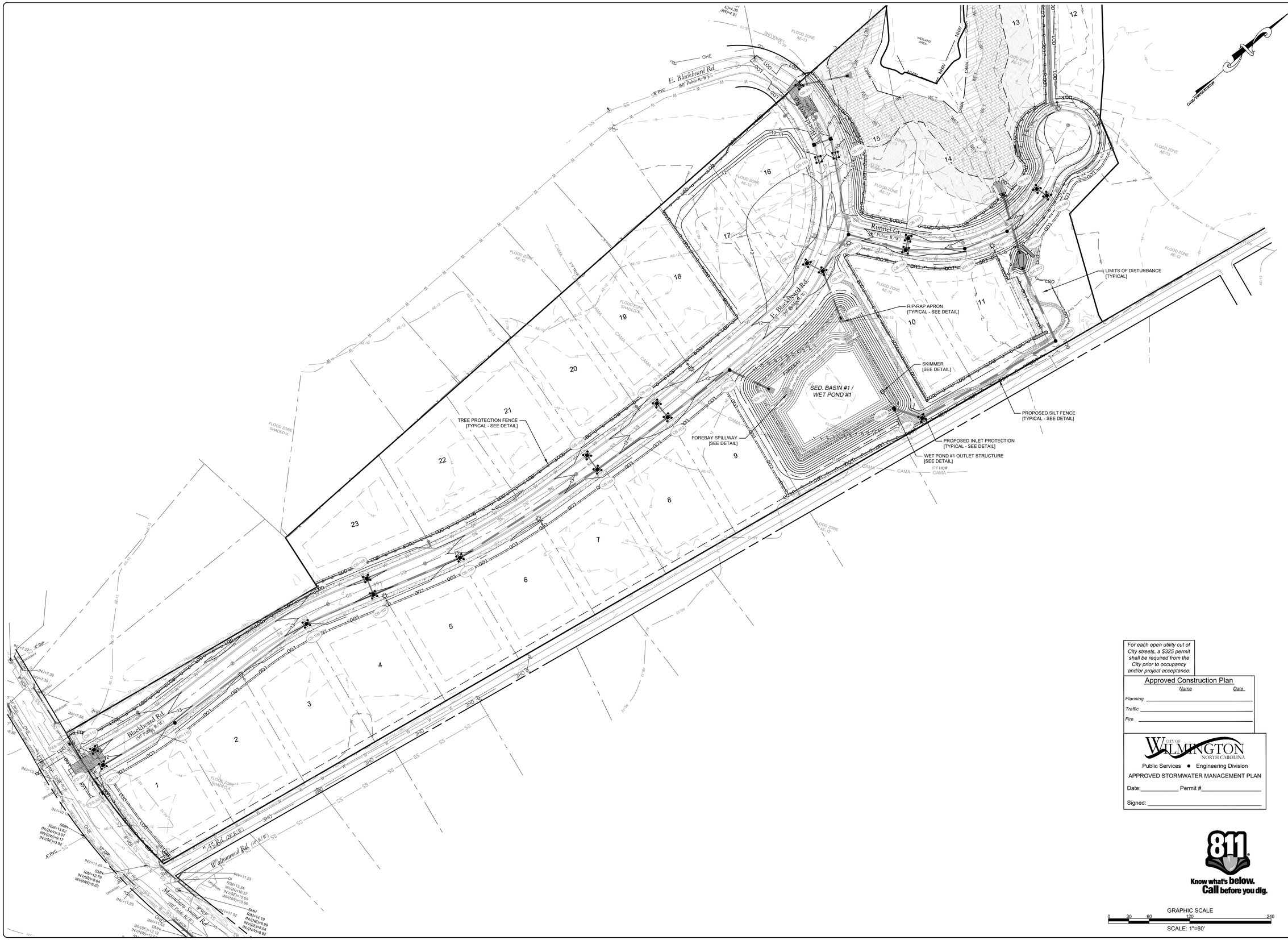
DRAWING INFORMATION
DATE: 03.12.19
SCALE: 1" = 60'
DESIGNED: DJF
DRAWN: DJF
CHECKED: DJF

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER DANIEL J. FISK 040501 04.18.19

C-3.0

PEI JOB#: 18390.PE



For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA

Public Services ● Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date:_____ Permit #_____

Signed: _____

811 Know what's below. Call before you dig.

GRAPHIC SCALE

0 30 60 120 240

SCALE: 1"=60'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

1. PER NHC ENGINEERING COMMENTS	04.18.19
2. PER CoW TRC COMMENTS	05.22.19

CLIENT INFORMATION:

SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

EROSION CONTROL PLAN PHASE II

CREEKSIDE

MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION

DATE:	03.12.19
SCALE:	1" = 60'
DESIGNED:	DJF
DRAWN:	DJF
CHECKED:	DJF

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER 040501 DANIEL J. FISK 05.22.19

C-3.1

PEI JOB#: 18390.PE

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	**Stabilize within this many calendar days after ceasing land disturbance**	**Timeframe variations**
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

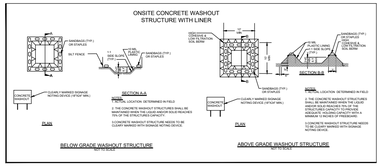
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation

In addition to the E&SC Plan documents above, the following items shall be kept on the site

and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This general permit as well as the certificate of coverage, after it is received.

(b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

(c) All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(b) Anticipated bypasses and unanticipated bypasses.

(c) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA

Public Services ● Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date:_____ Permit #_____

Signed: _____

811 Know what's below. Call before you dig.

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

CLIENT INFORMATION:

SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNT ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

EROSION CONTROL PLAN
PHASE II
CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY PLAT:
FINAL DESIGN:
RELEASED FOR CONST

DRAWING INFORMATION
DATE: 04.18.19
SCALE: NTS
DESIGNED: DJF
DRAWN: DJF
CHECKED: DJF

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 040501 ENGINEER DANIEL J. FISK
04.18.19

C-3.2

PEI JOB#: 18390.PE

DRAINAGE NOTES:

1.) DRAINAGE EASEMENT AND STORMWATER SYSTEM MAINTENANCE IS THE RESPONSIBILITY OF THE DEVELOPER OR HOA, INCLUDING PONDS, PIPES, AND INFILTRATION BASINS AND TRENCHES.

2.) ALL IMPERVIOUS MUST DRAIN TO THE DESIGNED STORMWATER SYSTEM, PER THE APPROVED PLANS. LOTS / BUILDING PADS SHALL BE FILLED AS NECESSARY TO FACILITATE IMPERVIOUS DRAINAGE TO THE STORM CONVEYANCE SYSTEM AND SCM (STORMWATER CONTROL MEASURE).

3.) NO OBSTRUCTIONS ARE ALLOWED IN DRAINAGE EASEMENTS, INCLUDING FENCES.

4.) ALL STORM DRAINAGE STRUCTURES SHALL MEET NCDOT STANDARDS AND SPECIFICATIONS AND SHALL BE TRAFFIC RATED FOR H-20 LOADS AT A MINIMUM.

5.) ALL CATCH BASIN (CB) RIM ELEVATIONS AND YARD INLET (YI) THROAT ELEVATIONS ARE LISTED AS THE "GUTTER OF FLOWLINE ELEVATION" WITHIN THE CURB SECTION. THE CONTRACTOR SHALL MAINTAIN A UNIFORM EDGE OF PAVEMENT (EOP) WHEN PLACING THE STORM INLETS WITHIN THE CURB-LINE (SEE "CURB TRANSITION" DETAIL). FOR CATCH BASINS WITHIN A TRANSITION FROM 24" STANDARD CURB & GUTTER, THE RIM ELEVATION GIVEN IS 1 INCH BELOW EOP. FOR MODIFIED VALLEY, THE RIM ELEVATION GIVEN IS 1/2 INCH BELOW EOP.

6.) MANHOLE RIM ELEVATION SHOWN ABOVE IS FLUSH WITH PROPOSED GRADE. CONTRACTOR SHALL PROVIDE 6" CLEARANCE ABOVE PROPOSED GRADE WHEN PLACED IN A GRASS/PERVIOUS AREA; AND A FLUSH CONDITION WITH PROPOSED PAVEMENT OR IMPERVIOUS COVER.

7.) PROPOSED BUILDINGS SHALL DIVERT ROOF DRAINAGE TO STORMWATER COLLECTION SYSTEM.

8.) CONTRACTOR SHALL ADJUST ALL FRAMES OF EX. UTILITY INFRASTRUCTURE WITHIN ASPHALT OVERLAY AREAS TO MATCH PROPOSED GRADES.

BUILDING PAD NOTES:

1.) SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

2.) FUTURE MINIMUM BUILDING PAD REFERENCED PER TYPICAL LOT GRADING DETAIL ON SHEET C-6.0. MINIMUM BUILDING PAD ELEVATION SHOWN DOES NOT REFERENCE FFE. 100-YEAR FLOOD ELEVATION AND DRAINAGE AROUND BUILDING PAD SHALL BE USED IN SETTING FFE.

ASPHALT AREA NOTE:

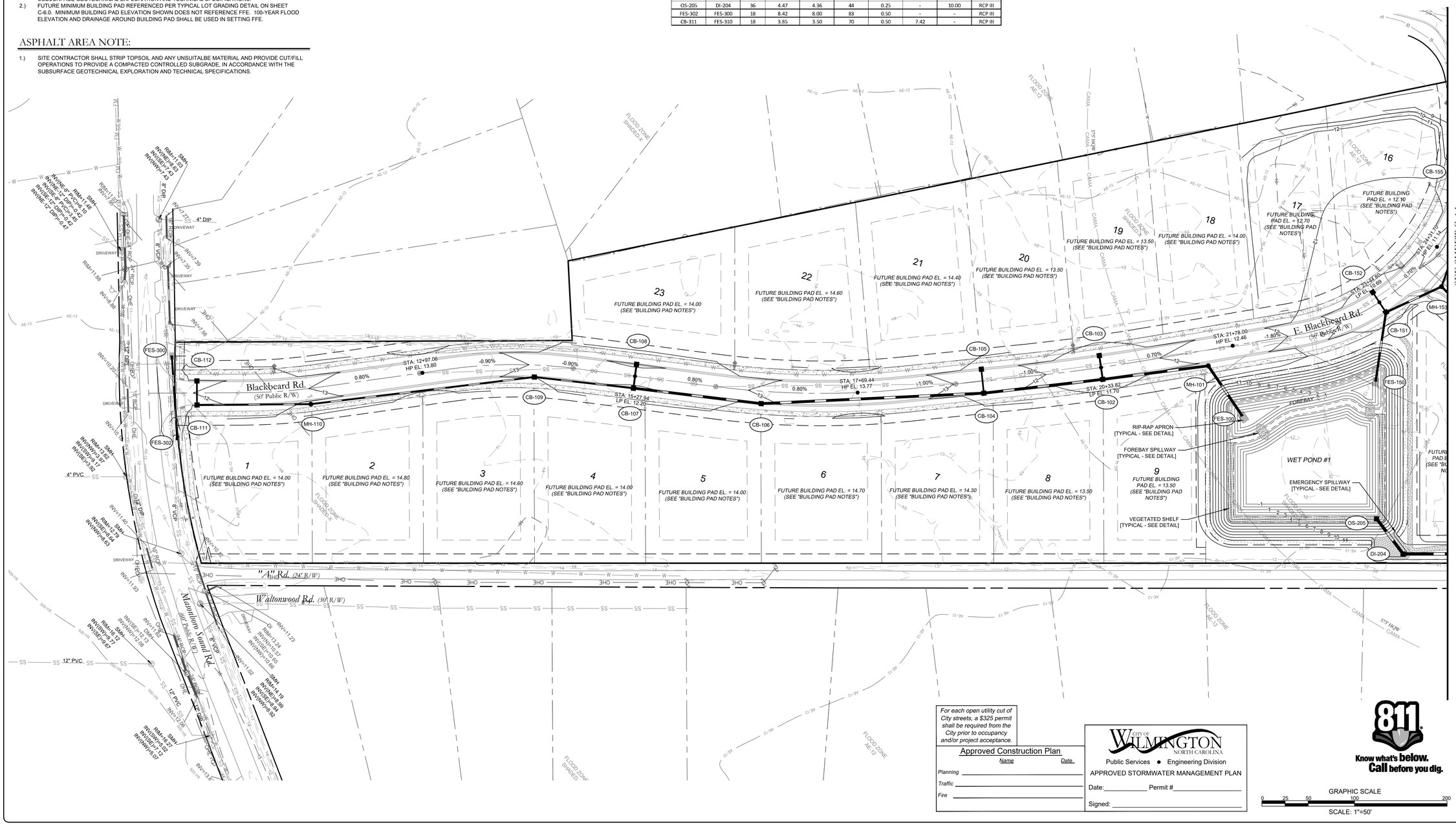
1.) SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITALBE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

NOTATION:

CB	=	CATCH BASIN	[NCDOT STD. 840.02 | 840.03]
DCB	=	DOUBLE CATCH BASIN	
DI	=	DROP INLET	[NCDOT STD. 840.16 | 840.46]
DDI	=	DOUBLE DROP INLET	[NCDOT STD. 840.35]
EW	=	ENDWALL	[NCDOT STD. 838.80]
FES	=	FLARED END SECTION	
HW	=	HEADWALL	[NCDOT STD. 838.80]
IFS	=	INTERFERENCE STRUCTURE	
MH	=	STORM MANHOLE	[CoW SD 2-03]
OS	=	OUTLET STRUCTURE	[SEE DETAILS SHEET]
YD	=	YARD DRAIN	[ADS NYLOPLAST]
YI	=	YARD INLET (2-SIDE OPEN THROAT)	[NCDOT STD. 840.04]
BC	=	BOTTOM OF CURB (GUTTER/FLOWLINE) ELEVATION	
FLUME	=	CONCRETE DRAINAGE FLUME FLOWLINE ELEVATION	
HP	=	HIGH POINT ELEVATION	
LP	=	LOW POINT ELEVATION	
PAD	=	DUMPSTER PAD ELEVATION	
PG	=	PROPOSED GRADE	
RP	=	RAMP ELEVATION	
SW	=	SIDEWALK ELEVATION	
TC	=	TOP OF CURB ELEVATION	

STORM SCHEDULE:

Upstream Node	Downstream Node	Diameter (In)	Upstream Invert	Downstream Invert	Pipe Length (ft)	Slope (%)	Upstream Rim Elev	Downstream Rim Elev	Pipe Material
MH-101	FES-100	30	1.31	1.00	62	0.50	12.49	-	RCP III
CB-102	MH-101	30	3.03	2.46	115	0.50	11.40	12.49	RCP III
CB-103	CB-102	18	3.16	3.03	26	0.50	11.40	11.40	RCP III
CB-104	CB-102	30	3.68	3.03	129	0.50	12.40	11.40	RCP III
CB-105	CB-104	15	9.00	8.87	26	0.50	12.40	12.40	RCP III
CB-106	CB-104	30	4.88	3.68	241	0.50	13.00	12.40	RCP III
CB-107	CB-106	30	5.57	4.88	139	0.50	11.91	13.00	RCP III
CB-108	CB-107	18	5.70	5.57	26	0.50	11.91	11.91	RCP III
CB-109	CB-107	18	6.11	5.57	108	0.50	12.65	11.91	RCP III
MH-110	CB-109	18	7.32	6.11	243	0.50	13.14	12.65	RCP III
CB-111	MH-110	18	7.94	7.32	123	0.50	11.74	13.14	RCP III
CB-112	CB-111	15	8.07	7.94	26	0.50	11.74	11.74	RCP III
CB-151	FES-150	24	1.32	1.00	72	0.45	10.40	-	RCP III
CB-152	CB-151	15	7.15	7.02	26	0.49	10.40	10.40	RCP III
MH-153	CB-151	24	1.63	1.32	66	0.47	10.41	10.40	RCP III
CB-154	MH-153	18	2.35	1.63	144	0.50	9.12	10.41	RCP III
CB-155	CB-154	15	6.45	6.32	26	0.52	9.20	9.12	RCP IV
CB-156	MH-153	24	4.56	4.12	87	0.50	9.51	10.41	RCP III
CB-157	CB-156	18	5.75	5.66	18	0.50	9.51	9.51	RCP III
MH-158	CB-156	18	5.00	4.56	87	0.50	10.11	9.51	RCP III
MH-159	MH-158	18	5.33	5.00	67	0.50	10.16	10.11	RCP III
CB-160	MH-159	18	6.75	6.55	79	0.25	9.57	10.16	RCP IV
CB-161	CB-160	18	6.80	6.75	18	0.28	9.57	9.57	RCP IV
HW-201	EW-200	36	2.93	2.50	85	0.50	-	-	RCP III
MH-203	EW-202	36	3.79	3.50	116	0.25	10.50	-	RCP III
DI-204	MH-203	36	4.36	3.79	228	0.25	10.00	10.50	RCP III
OS-205	DI-204	36	4.47	4.36	44	0.25	-	10.00	RCP III
FES-302	FES-300	18	8.42	8.00	83	0.50	-	-	RCP III
CB-311	FES-310	18	3.85	3.50	70	0.50	7.42	-	RCP III



For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date:_____ Permit #_____

Signed: _____

811 Know what's below. Call before you dig.

GRAPHIC SCALE

0 25 50 100 200

SCALE: 1"=50'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

1. STORM REVISIONS PER CP/DA SAN. SEWER REVISIONS	04.03.19
2. PER CoW ENGINEERING COMMENTS	04.22.19

CLIENT INFORMATION:

SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

GRADING & DRAINAGE PLAN

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY PLAT:
FINAL DESIGN:
RELEASED FOR CONST:

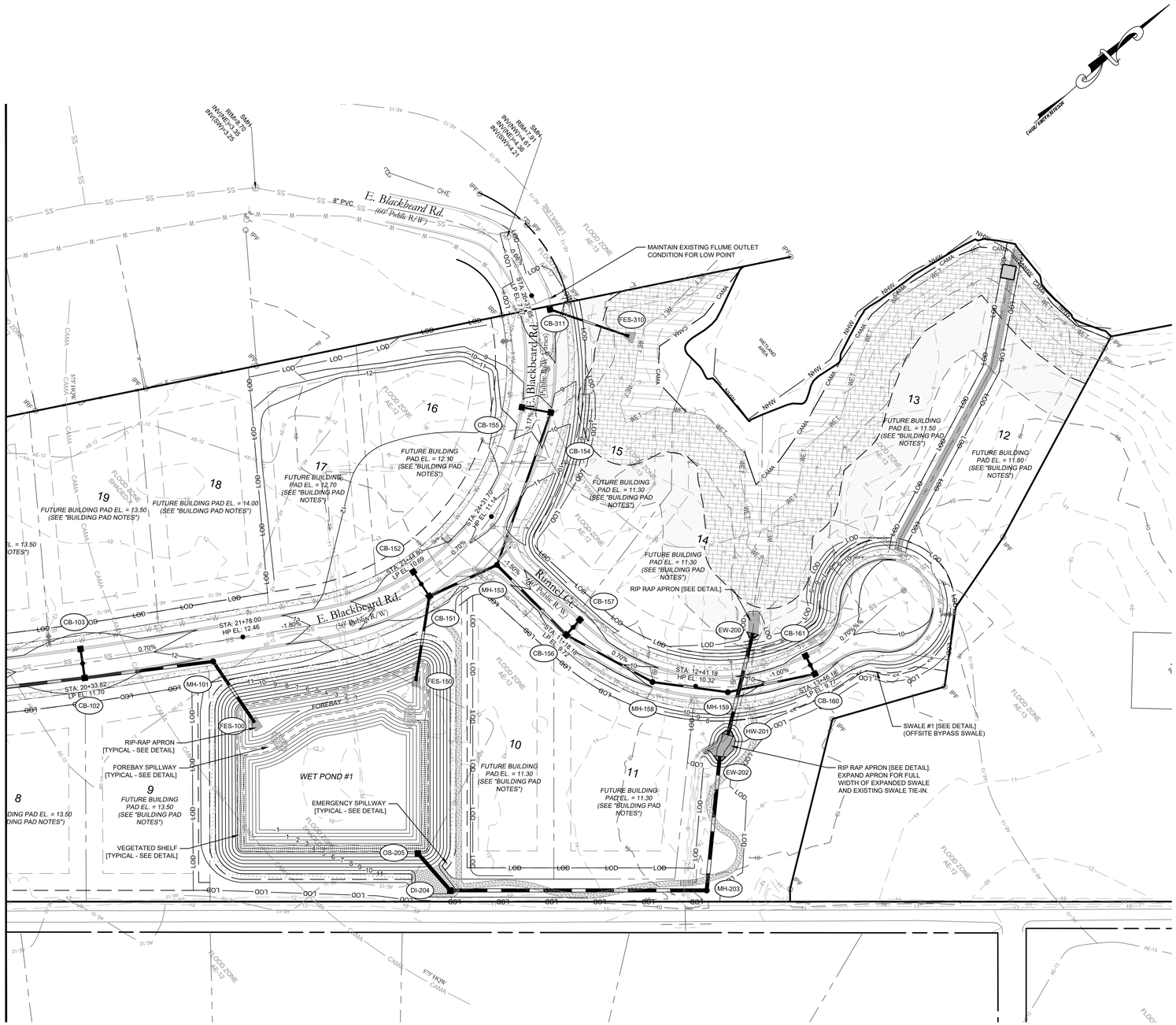
DRAWING INFORMATION
DATE: 03.04.19
SCALE: 1" = 50'
DESIGNED: DJF
DRAWN: DJF
CHECKED:

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER 040501 04.22.19 DANIEL J. FISK

C-4.0

PEI JOB#: 18390.PE



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date:_____ Permit #_____

Signed: _____

811 Know what's below. Call before you dig.

GRAPHIC SCALE

0 25 50 100 200

SCALE: 1"=50'

REVISIONS:

1. PER CoW ENGINEERING COMMENTS	04.22.19
2. PER CoW TRC COMMENTS	05.22.19

CLIENT INFORMATION:

SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

GRADING & DRAINAGE PLAN

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 03.04.19
SCALE: 1" = 50'
DESIGNED: DJF
DRAWN: DJF
CHECKED: DJF

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER 040501 DANIEL J. FISK
05.22.19

C-4.1

PEI JOB#: 18390.PE

GRAVITY SEWER NOTES:

1. ALL MANHOLES LOCATED WITHIN 50' OF WETLANDS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   - 1.1. SEAMS SHALL BE EXTERNALLY TAPED / SEALED WITH WATERTIGHT MATERIAL.
   - 1.2. ALL MANHOLE INTERIORS SHALL BE FULLY LINED WITH WATERPROOF COATING.
   - 1.3. MANHOLES SHALL BE TESTED IN ACCORDANCE WITH ASTM C1244 "STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY NEGATIVE AIR PRESSURE (VACUUM) TEST PRIOR TO BACKFILL.

2. ALL SEWER PIPE MATERIALS, INSTALLATION, AND TESTING SHALL MEET WATER MAIN STANDARDS WHEN LOCATED WITHIN 50' OF WETLANDS.

3. MANHOLES LOCATED WITHIN THE 100-YEAR FLOOD PLAIN WHERE THE DESIGN RIM ELEVATION IS NOT 24 INCHES (2 FOOT) ABOVE THE 100-YEAR FLOOD ELEVATION (SSMH-001, SSMH-002, SSMH-003, SSMH-004, SSMH-005, AND SSMH-006) SHALL CONFORM TO THE FOLLOWING:
   - 3.1. MANHOLES SHALL BE WATERTIGHT AND VENTED 24 INCHES (2 FOOT) ABOVE THE 100-YEAR FLOOD ELEVATION. MANHOLES SHALL BE VENTED EVERY 1,000 FEET OR EVERY OTHER MANHOLE, WHICHEVER IS GREATER.
   - 3.2. PROVIDE WATERTIGHT, BOLTED RIM AND COVER.

UTILITY NOTES: *(NCAC 15A.02T.0305 / T15A.18C.0906)*

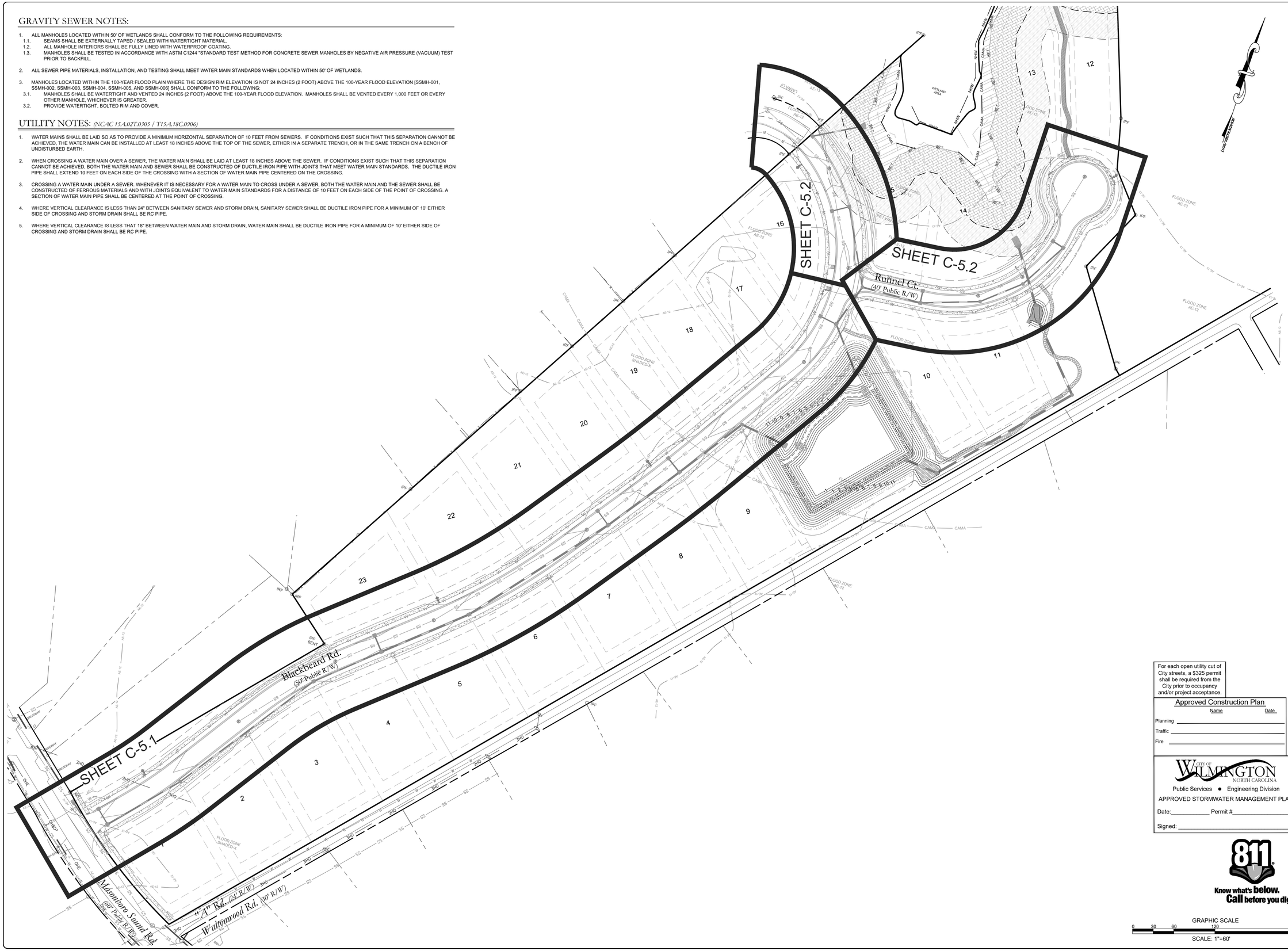
1. WATER MAINS SHALL BE LAID SO AS TO PROVIDE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET FROM SEWERS. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, THE WATER MAIN CAN BE INSTALLED AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, EITHER IN A SEPARATE TRENCH, OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH.

2. WHEN CROSSING A WATER MAIN OVER A SEWER, THE WATER MAIN SHALL BE LAID AT LEAST 18 INCHES ABOVE THE SEWER. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS THAT MEET WATER MAIN STANDARDS. THE DUCTILE IRON PIPE SHALL EXTEND 10 FEET ON EACH SIDE OF THE CROSSING WITH A SECTION OF WATER MAIN PIPE CENTERED ON THE CROSSING.

3. CROSSING A WATER MAIN UNDER A SEWER, WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

4. WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.

5. WHERE VERTICAL CLEARANCE IS LESS THAT 18" BETWEEN WATER MAIN AND STORM DRAIN, WATER MAIN SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

811 Know what's below. Call before you dig.

GRAPHIC SCALE
0 30 60 120 240
SCALE: 1"=60'

REVISIONS:
1. PER CCPUA COMMENTS — 04.03.19

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, P.C.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

PLAN & PROFILE
INDEX MAP

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

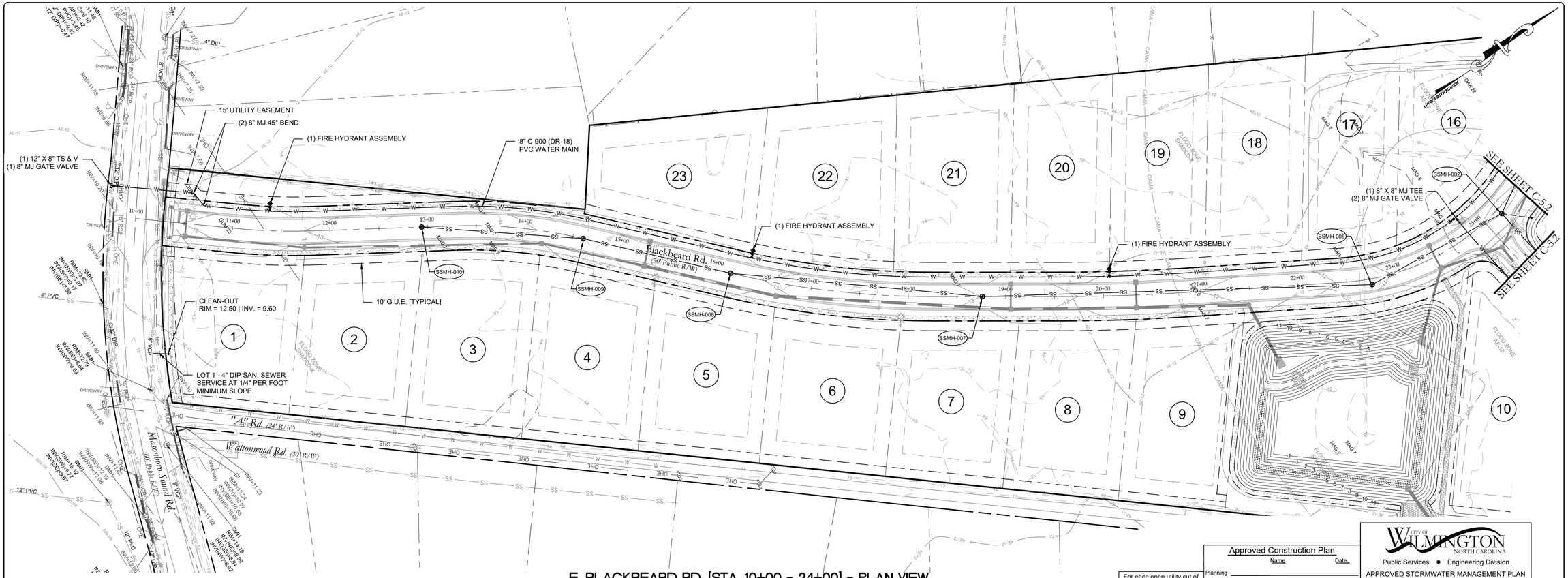
PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST

DRAWING INFORMATION
DATE: 03.12.19
SCALE: 1" = 60'
DESIGNED: DJF
DRAWN: DJF
CHECKED: DJF

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040501 DANIEL J. FISK
04.03.19

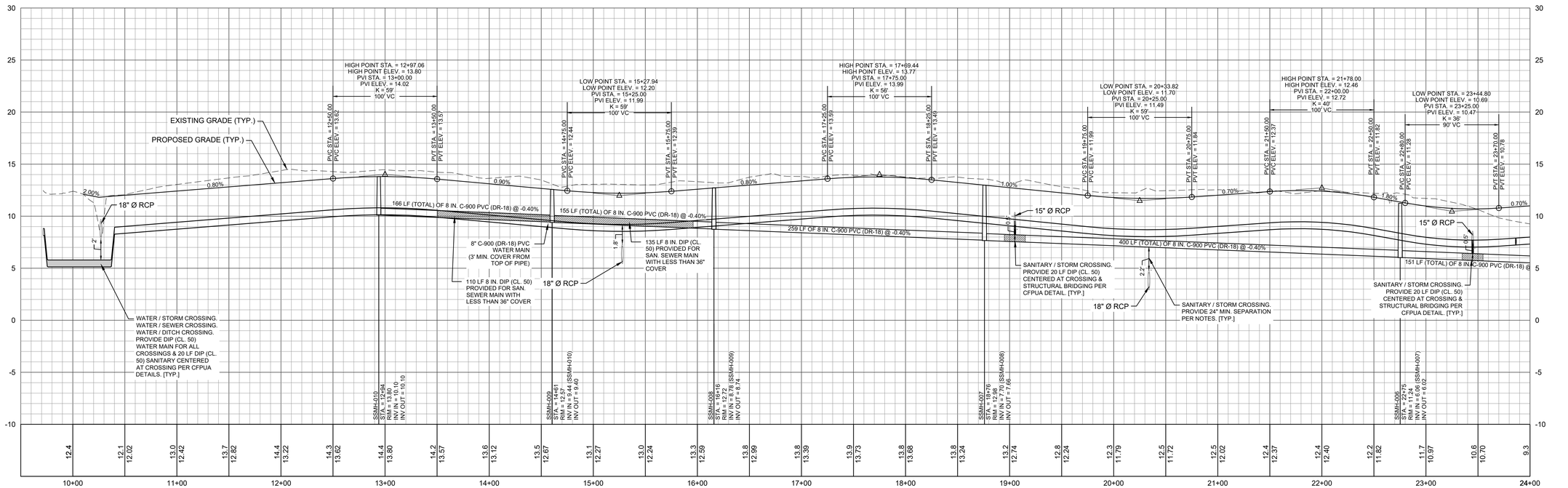
C-5.0

PEI JOB#: 18390.PE



E. BLACKBEARD RD. [STA. 10+00 - 24+00] - PLAN VIEW

SCALE: 1" = 50'



E. BLACKBEARD RD. [STA. 10+00 - 24+00] - PROFILE VIEW

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

GRAPHIC SCALE
0 25 50 100 200
SCALE: 1"=50'

Approved Construction Plan

Name Date

Planning _____
Traffic _____
Fire _____

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:
1. PER CFPUA COMMENTS 04.03.19
2. PER CoW TRC COMMENTS 05.22.19

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

PLAN & PROFILE
E. BLACKBEARD RD.
CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

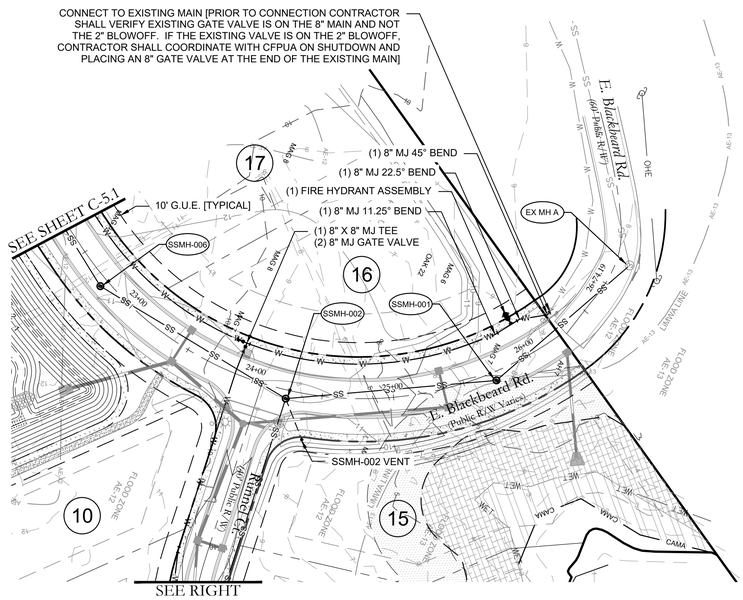
PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 03.04.19
SCALE: 1" = 50'
DESIGNED: DJF
DRAWN: DJF
CHECKED: DJF

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 040501 ENGINEER DANIEL J. FISK
05.22.19

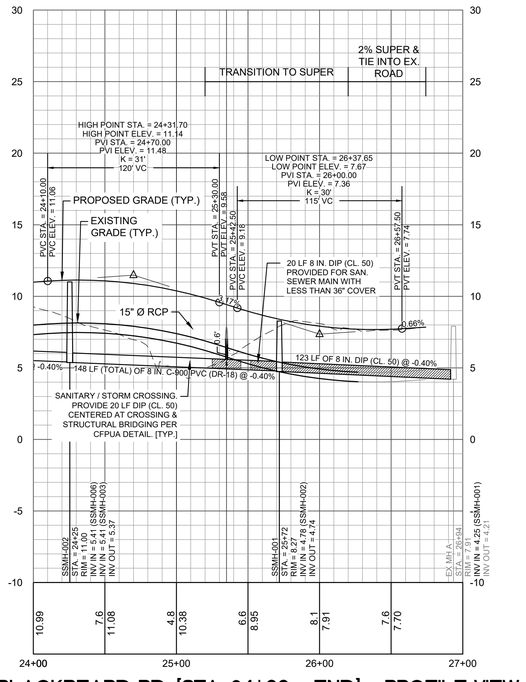
C-5.1

PEI JOB#: 18390.PE



E. BLACKBEARD RD. [STA. 24+00 - END] - PLAN VIEW

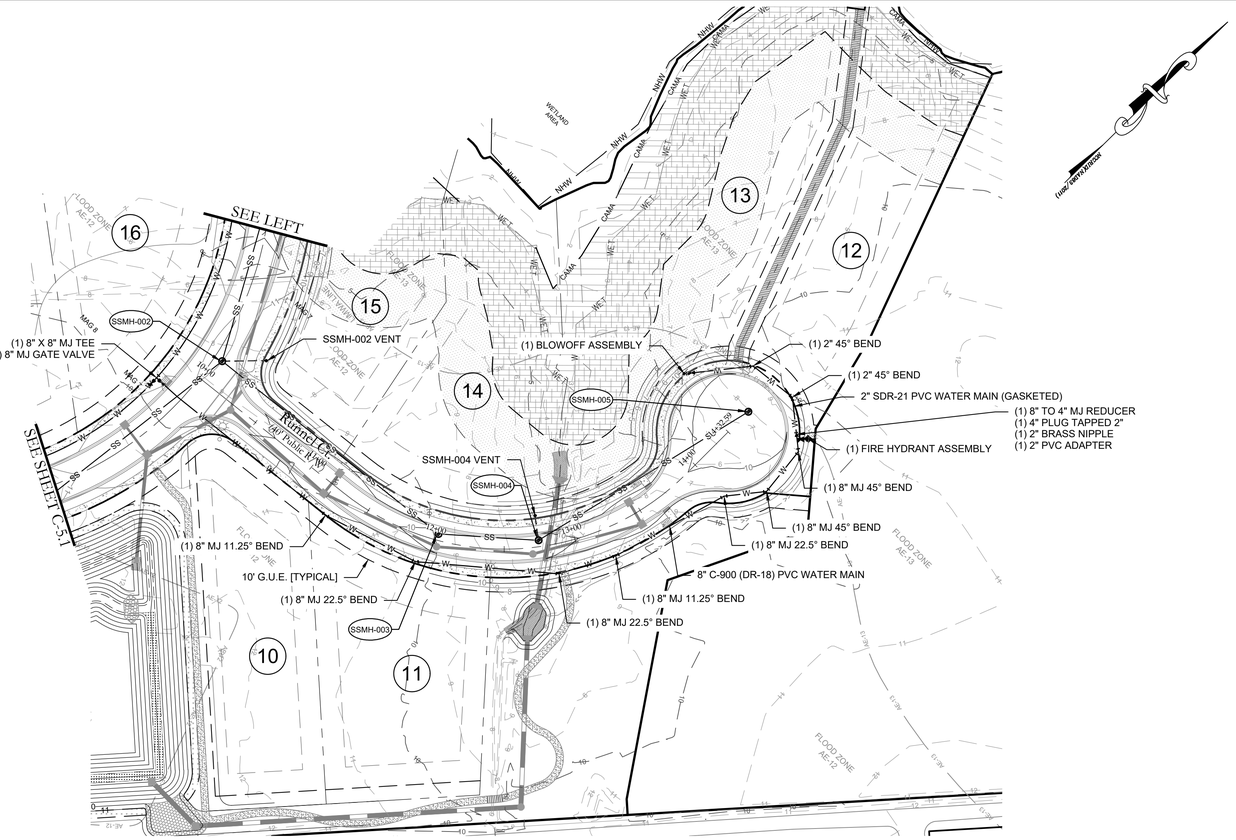
SCALE: 1" = 50'



E. BLACKBEARD RD. [STA. 24+00 - END] - PROFILE VIEW

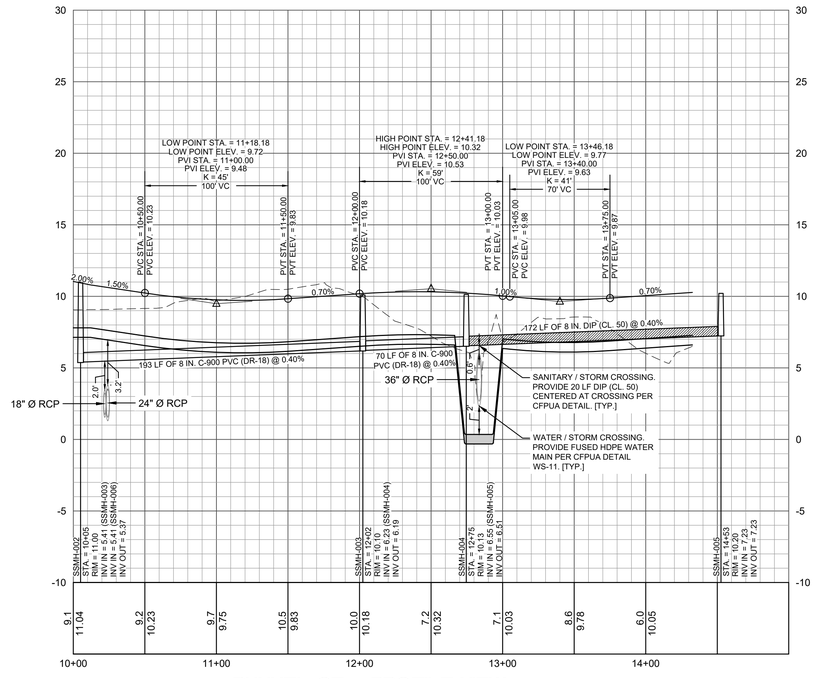
HORIZONTAL SCALE: 1" = 50'

VERTICAL SCALE: 1" = 5'



RUNNEL CT. - PLAN VIEW

SCALE: 1" = 50'



RUNNEL CT. - PROFILE VIEW

HORIZONTAL SCALE: 1" = 50'

VERTICAL SCALE: 1" = 5'

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date:_____ Permit #_____

Signed: _____

GRAPHIC SCALE

0 25 50 100 200

SCALE: 1"=50'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

1. PER CFPUA COMMENTS	04.03.19
2. PER CoW -TRC COMMENTS	05.22.19

CLIENT INFORMATION:

SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, P.C.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 03.04.19
SCALE: 1" = 50'
DESIGNED: DJF
DRAWN: DJF
CHECKED: DJF

SEAL

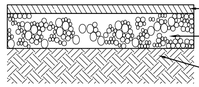
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040501 DANIEL J. FISK 05.22.19

PLAN & PROFILE BLACKBEARD RD | RUNNEL CT

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

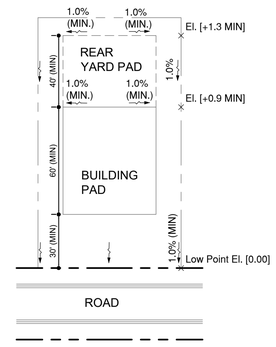
C-5.2

PEI JOB#: 18390.PE



ASPHALT PAVING SECTION

NOT TO SCALE

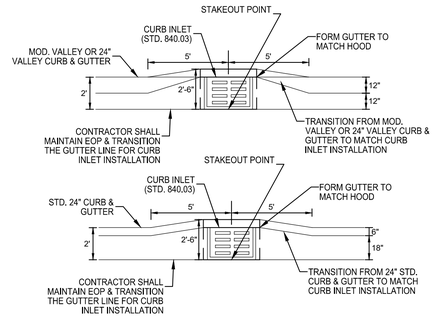


NOTES:

- ALL BUILT UPON (IMPERVIOUS) AREA SHALL BE DIRECTED TOWARDS ON-SITE COLLECTION SYSTEM. NO ROOF DRAINS SHALL BE DIRECTED OFF-SITE WITHOUT ENTERING THE ON-SITE COLLECTION FIRST.
- MIN. BUILDING PAD ELEVATION DOES NOT EQUAL FFE. 100-YEAR FLOOD ELEVATION AND DRAINAGE AROUND BUILDING PAD SHALL BE CONSIDERED WHEN SETTING FFE.

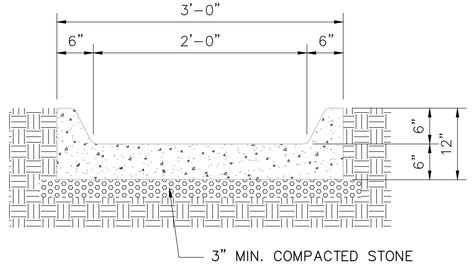
TYPICAL LOT GRADING DETAIL

NOT TO SCALE



CURB TRANSITION DETAIL

NOT TO SCALE



CONCRETE DRAINAGE FLUME

NOT TO SCALE

REVISIONS:
1. PER CoW ENGINEERING COMMENTS — 04.22.19

CLIENT INFORMATION:

SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

DETAILS

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY PLAT:
FINAL DESIGN:
RELEASED FOR CONST:

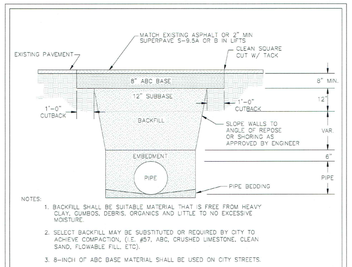
DRAWING INFORMATION
DATE: 03.04.19
SCALE: AS NOTED
DESIGNED: DJF
DRAWN: DJF
CHECKED: DJF

SEAL
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 040500 DANIEL J. FISK
04.22.19

C-6.0

PEI JOB#: 18390.PE

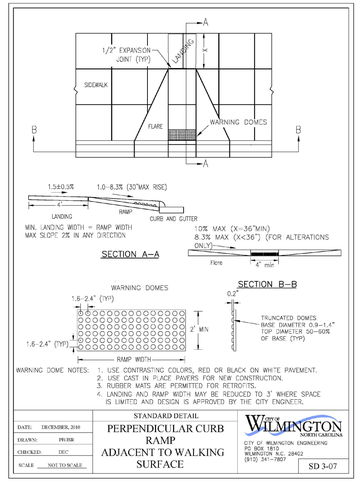
FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION



STANDARD DETAIL — PAVEMENT REPAIRS DETAIL

DATE: September 10, 2008 | DRAWN BY: JSR | CHECKED BY: D.E.C. P.E. | SCALE: NOT TO SCALE

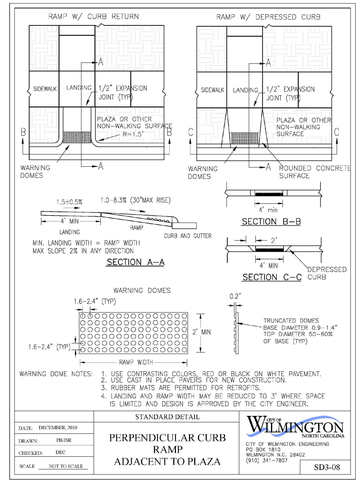
CITY OF WILMINGTON ENGINEERING, 305 CHESTNUT STREET, WILMINGTON N.C. 28401, (910) 341-7807 — SD 1-05



STANDARD DETAIL — PERPENDICULAR CURB RAMP ADJACENT TO WALKING SURFACE

DATE: DECEMBER, 2010 | DRAWN: PB/JSR | CHECKED: DEC | SCALE: NOT TO SCALE

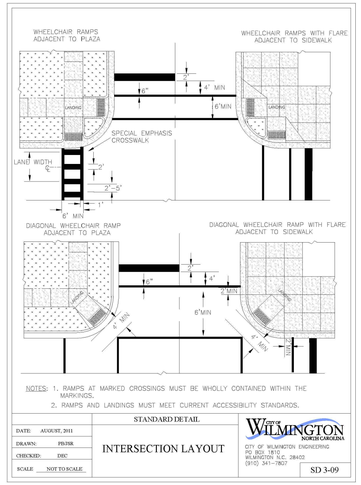
CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON N.C. 28402, (910) 341-7807 — SD 3-07



STANDARD DETAIL — PERPENDICULAR CURB RAMP ADJACENT TO PLAZA

DATE: DECEMBER, 2010 | DRAWN: PB/JSR | CHECKED: DEC | SCALE: NOT TO SCALE

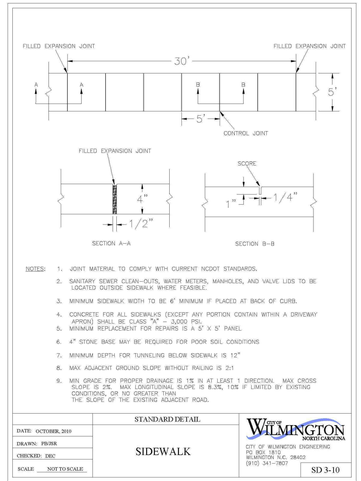
CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON N.C. 28402, (910) 341-7807 — SD3-08



STANDARD DETAIL — INTERSECTION LAYOUT

DATE: AUGUST, 2011 | DRAWN: PB/JSR | CHECKED: DEC | SCALE: NOT TO SCALE

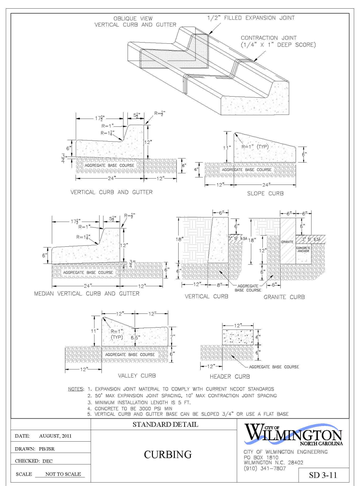
CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON N.C. 28402, (910) 341-7807 — SD 3-09



STANDARD DETAIL — SIDEWALK

DATE: OCTOBER, 2010 | DRAWN: PB/JSR | CHECKED: DEC | SCALE: NOT TO SCALE

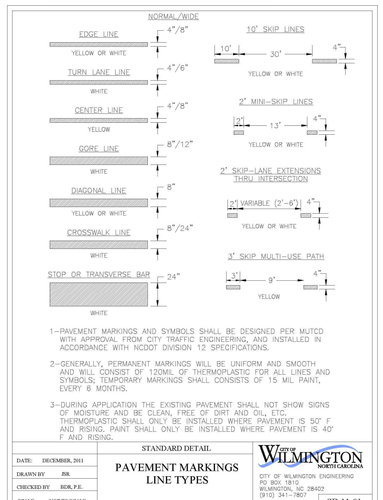
CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON N.C. 28402, (910) 341-7807 — SD 3-10



STANDARD DETAIL — CURBING

DATE: AUGUST, 2011 | DRAWN BY: PB/JSR | CHECKED BY: DEC | SCALE: NOT TO SCALE

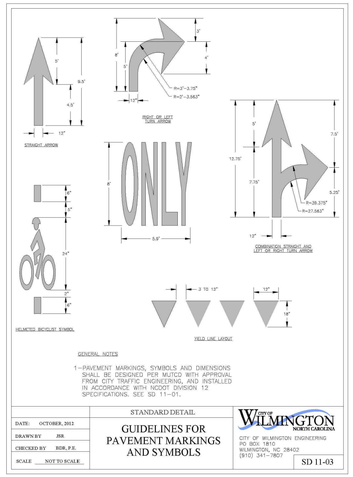
CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON N.C. 28402, (910) 341-7807 — SD 3-11



STANDARD DETAIL — PAVEMENT MARKINGS LINE TYPES

DATE: DECEMBER, 2011 | DRAWN BY: JSR | CHECKED BY: BDB, P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON, NC 28402, (910) 341-7807 — SD 11-01



STANDARD DETAIL — GUIDELINES FOR PAVEMENT MARKINGS AND SYMBOLS

DATE: OCTOBER, 2012 | DRAWN BY: JSR | CHECKED BY: BDB, P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON, NC 28402, (910) 341-7807 — SD 11-03

SIGNS

1. All signs shall meet the requirements of MUTCD and City Traffic Engineering in effect at the time of construction.
2. All Traffic Control Signs including multi-use paths shall be fabricated with 0.080 inch aluminum blanks using high intensity prismatic reflective sheeting Type IV or better. STOP signs shall be a minimum of 30"x30".
3. SPECIAL DESIGNATION signs by location and type shall adhere to City of Wilmington signage plan (ie. downtown, historic, cross-city trail, parks, riverfront, scenic by-way, parking, etc.) and all associated policies.
4. POST MOUNTED STREET NAME SIGNS shall be fabricated with 9" extruded aluminum street name sign blanks using a standard cut-out. Minimum sign length is 18" long and increasing in 6" increments to 54" maximum as dictated by the number of letters in the name. The color scheme shall be white letters on a green background without a border. Generally, in the downtown and historic areas or as designated in the City of Wilmington signage plan the background shall be blue and contain a topper.
5. Decorative sign posts shall consist of the NEX sign support system, 2" octagonal tube, 14 gauge, powder coated glossy black and include cap, post, base and wedge.
6. All other sign posts shall be u-channel posts made of galvanized steel with 8' posts 2lbs/ft or 12' posts 3lbs/ft. Galvanized NEX post may be substituted with approval from the City Signs and Markings Engineer.
7. OVERHEAD STREET NAME SIGNS shall be fabricated with 0.080 inch aluminum flat sign blanks 18" in height using a standard cut-out. Sign length will be dictated by the number of letters in the name. For mast-arm type traffic signal supports and other overhead support systems refer to the design plans for maximum sign length.
8. All sign lettering, colors and fonts shall adhere to the MUTCD in effect at the time of construction. Florescent Yellow-Green shall be used on signs, in place of Yellow, when listed as an optional color in the MUTCD. Generally, the font will be FHWA series fonts (Highway Gothic.) Other font types require prior City Signs and Markings Engineer approval .

LOCATION

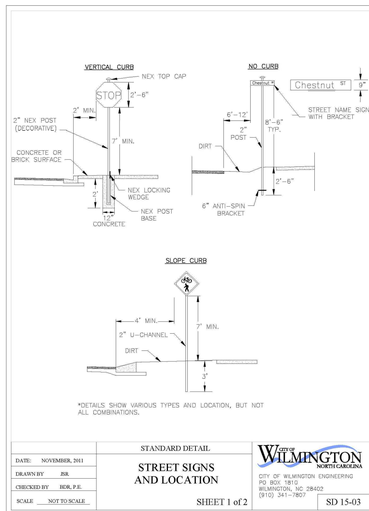
9. Sign locations depend on the edge of road condition. Generally, signs shall be a minimum 2' from face of a vertical curb, 4' from front of slope face curb, and 6' from edge of pavement without curb. Signs shall not be located more than 12' from any of these locations.
10. Sign posts installed in dirt shall be buried a minimum of 36". Octagonal posts shall utilize an anti-spin device, 6" in length minimum. Sign posts installed in concrete or brick shall utilize a base cast in concrete 24" x 12" diameter.
11. Street name signs shall be installed 8'-6" from the ground to the bottom of the sign. Street name signs co-located with STOP signs shall be installed above the STOP sign. A 6" space shall be maintained between the STOP sign and a Street name sign that is parallel to the STOP sign face. All other signs should be mounted per MUTCD guidelines for Urban Areas.

STANDARD DETAIL — STREET SIGNS AND LOCATION

SHEET 2 of 2

DATE: NOVEMBER, 2011 | DRAWN BY: JSR | CHECKED BY: BDB, P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON, NC 28402, (910) 341-7807 — SD 15-03



STANDARD DETAIL — STREET SIGNS AND LOCATION

SHEET 1 of 2

DATE: NOVEMBER, 2011 | DRAWN BY: JSR | CHECKED BY: BDB, P.E. | SCALE: NOT TO SCALE

CITY OF WILMINGTON ENGINEERING, PO BOX 1810, WILMINGTON, NC 28402, (910) 341-7807 — SD 15-03

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

Name Date

Planning _____

Traffic _____

Fire _____

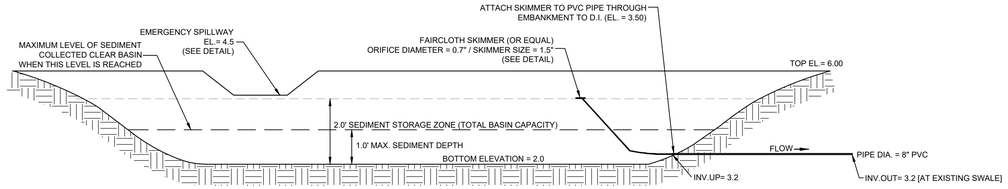
CITY OF WILMINGTON NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

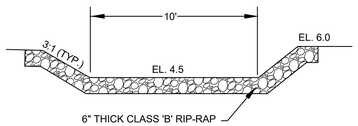
Date:_____ Permit #_____

Signed: _____



TEMP. SKIMMER BASIN #2 DETAIL

NOT TO SCALE



TEMP SKIMMER BASIN #2 SPILLWAY DETAIL

NOT TO SCALE

BAFFLES

CONSTRUCTION SPECIFICATION

1. Grade the basin so that the bottom is level front to back and side to side.
2. Install posts or saw horses across the width of the sediment trap (Practice 6.62, *Sediment Fence*).
3. Steel posts should be driven to a depth of 24 inches, spaced a maximum of 4 feet apart, and installed up the side of the basin as well. The top of the fabric should be 6 inches higher than the invert of the spillway. Tops of baffles should be 2 inches lower than the top of the berms.
4. Install at least three rows of baffles between the inlet and outlet discharge point. Basins less than 20 feet in length may use 2 baffles.
5. When using posts, add a support wire or rope across the top of the measure to prevent sagging.
6. Wrap jute, backed by coir material, over a sawhorse or the top wire. Hammer rebar into the sawhorse legs for anchoring. The fabric should have five to ten percent openings in the weave. Attach fabric to a rope and a support structure with zip ties, wire or staples.
7. The bottom and sides of the fabric should be anchored in a trench or pinned with 8-inch erosion control matting staples.
8. Do not splice the fabric, but use a continuous piece across the basin.

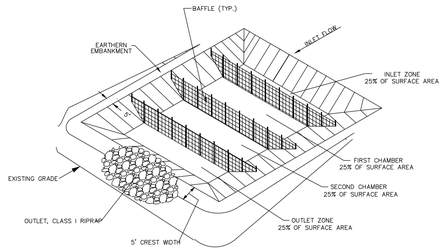
MAINTENANCE

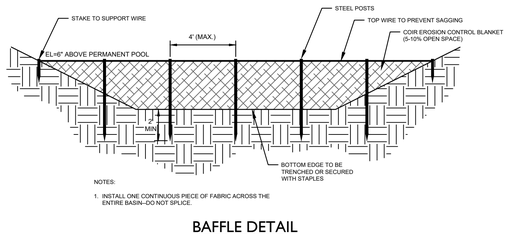
Inspect baffles at least once a week and after each rainfall. Make any required repairs immediately.

Be sure to maintain access to the baffles. Should the fabric of a baffle collapse, tear, decompose, or become ineffective, replace it promptly.

Remove sediment deposits when it reaches half full to provide adequate storage volume for the next rain and to reduce pressure on the baffles. Take care to avoid damaging the baffles during cleanout. Sediment depth should never exceed half the designed storage depth.

After the contributing drainage area has been properly stabilized, remove all baffle materials and unstable sediment deposits, bring the area to grade, and stabilize it.



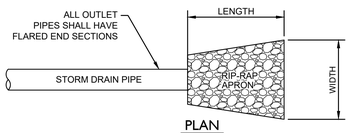


NOTES:

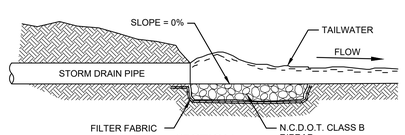
1. INSTALL ONE CONTINUOUS PIECE OF FABRIC ACROSS THE ENTIRE BASIN--DO NOT SPLICE.

BAFFLE DETAIL

NOT TO SCALE



PLAN

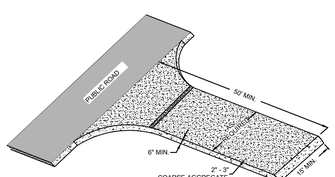


SECTION

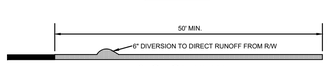
RIP-RAP SCHEDULE					
APRON #	PIPE DIA. (IN.)	LENGTH (FT.)	UP.WIDTH (FT.)	DWN.WIDTH (FT.)	THICKNESS (IN.)
FES-100	30"	11	7.5	7.5	18
FES-150	24"	9	6	6	18
EW-200	36"	18	9	9	18
EW-202	36"	18	9	9	18
FES-300	18"	7	4.5	4.5	18
FES-310	18"	9	4.5	10.5	18

RIP-RAP APRON

NTS



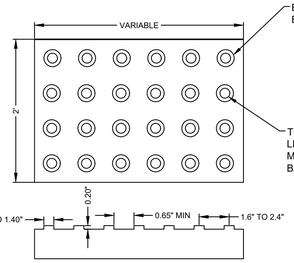
PLAN VIEW



SECTION VIEW

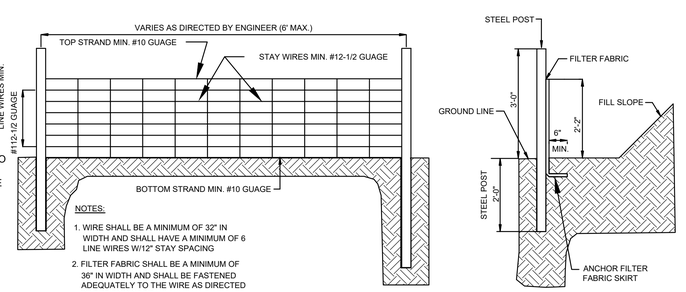
TEMPORARY CONSTRUCTION ENTRANCE

NOT TO SCALE



DETECTABLE WARNING MAT

NOT TO SCALE

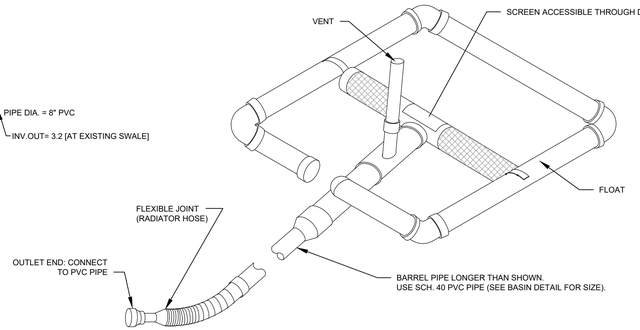


NOTES:

1. WIRE SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES W/12" STAY SPACING
2. FILTER FABRIC SHALL BE A MINIMUM OF 36" IN WIDTH AND SHALL BE FASTENED ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER
3. STEEL POST SHALL BE 5' 0" IN HEIGHT AND BE OF SELF FASTENER ANGLE STEEL TYPE

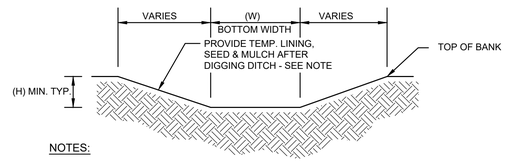
GUIDELINES FOR TEMPORARY SILT FENCE DETAIL

NOT TO SCALE



FAIRCLOTH SKIMMER DETAIL

NOT TO SCALE



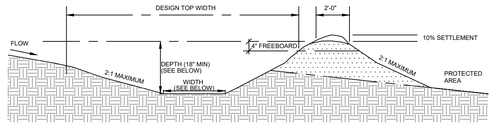
NOTES:

1. PROVIDE NA GREEN S150 TEMP. LINING (STAPLE PATTERN D) OR APPROVED EQUAL.

SWALE #	LENGTH (FT)	INV UP	INV DN	SLOPE (FT/FT)	WIDTH (FT)	SIDESLOPE (H:V)	DEPTH (FT)
1	225	8.00	6.00	0.0089	1	3:1	1.25 (MIN)

PROPOSED DRAINAGE SWALE SECTION DETAIL

NOT TO SCALE



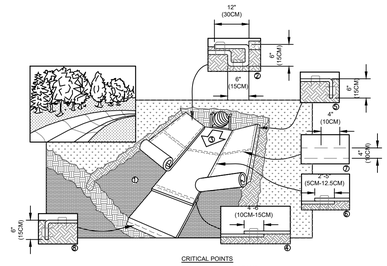
NOTES:
BUILD RIDGE HIGHER THAN DESIGN AND COMPACT WITH WHEELS OF CONSTRUCTION EQUIPMENT. COMPACTED RIDGE MUST AT OR ABOVE DESIGN GRADE AT ALL POINTS. CHANNEL MUST BE CONSTRUCTED ON DESIGN GRADE. LEAVE SUFFICIENT AREA ALONG DIVERSION TO PERMIT CLEANOUT AND REGRADING.

TEMPORARY DIVERSION DITCH

NOT TO SCALE

TDD #	LENGTH (FT)	INV UP	INV DN	SLOPE (FT/FT)	WIDTH (FT)	DEPTH (FT)
1	1100	12.50	9.20	0.0030	2	1.5
2	210	9.00	8.35	0.0031	2	1.5

PROVIDE TEMPORARY LINING (NA GREEN S75 OR APPROVED EQUAL FOR BOTH TDD #1 AND #2



CRITICAL POINTS

A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

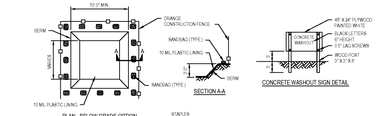
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

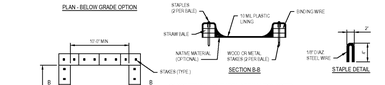
** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 8" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.

ROLLED EROSION CONTROL LINING

NOT TO SCALE

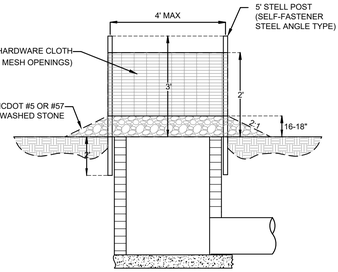




CONCRETE WASHOUT AREA INSTALLATION NOTES:

1. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. THE CONCRETE WASHOUT AREA SHALL BE CLEARLY STAKED AND FLAGGED AT THE PERIMETER OF THE AREA TO ALL CONSTRUCTION PERSONNEL IN THE AREA.
3. THE CONCRETE WASHOUT AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. THE WASHOUT AREA MUST BE CLEANED, OR A NEW WASHOUT AREA MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.
4. THE CONCRETE WASHOUT SIGN SHALL BE PLACED WITHIN 30 OF THE WASHOUT AREA. ADDITIONAL SIGNS SHALL BE INSTALLED IN APPROPRIATE LOCATIONS AS NEEDED TO CLEARLY DIRECT ALL OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRUCKS.
5. THE CONCRETE WASHOUT AREA SHALL BE LOCATED A MINIMUM OF 50 FEET FROM STORM DRAIN INLETS, OPEN DITCHES/SWALE FACILITIES, AND WATERCOURSES. CAUTION MUST BE USED TO LOCATE AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS TO PREVENT DISTURBANCE OR TRACKING. VEHICLE TRACKING CONTROL MAY BE USED TO ASSIST IN CONTROLLING ACCESS TO THE CONCRETE WASHOUT AREA.
6. PLASTIC LINING MATERIAL SHALL BE A MINIMUM OF 10 MIL IN THICKNESS AND SHALL BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
7. WHEN THE CONCRETE WASHOUT AREA IS NO LONGER REQUIRED FOR WORK, THE HARDENED CONCRETE AND MATERIAL USED TO CONSTRUCT WASHOUT AREA (WALLS BE REMOVED) AND DISPOSED OF AT AN APPROVED WASTE SITE.
8. AFTER THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA WILL BE REGRADED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE ENGINEER.

CONCRETE WASHOUT AREA



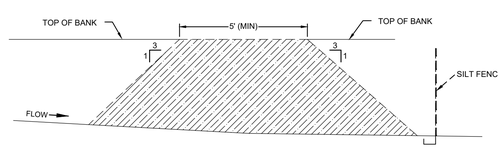
SECTION A - A

NOTE:
FOR CURB INLETS AND DROP INLETS

INLET PROTECTION

DITCH PLUG

NOT TO SCALE



NOTES:

1. CONTRACTOR TO INSTALL DITCH PLUGS AS SHOWN ON PLANS IN ALL DITCHES TO BE FILLED.
2. DITCH PLUGS ARE TO BE INSTALLED AND DITCHES TO BE FILLED PRIOR TO ANY RAIN EVENT

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

Name Date

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON NORTH CAROLINA

Public Services ● Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date:_____ Permit #_____

Signed: _____

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:
1. PER NHC ENGINEERING COMMENTS 04.18.19

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, P.C.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

DETAILS

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY PLAT:
FINAL DESIGN:
RELEASED FOR CONST:

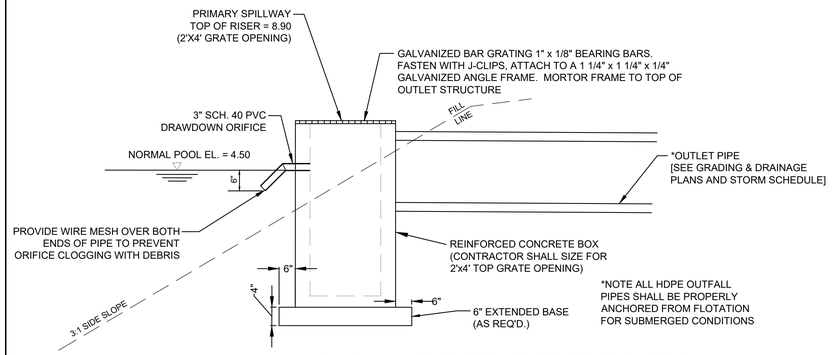
DRAWING INFORMATION
DATE: 03.18.19
SCALE: AS NOTED
DESIGNED: DJF
DRAWN: DJF
CHECKED: DJF

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 24687 ENGINEER DANIEL J. FISK

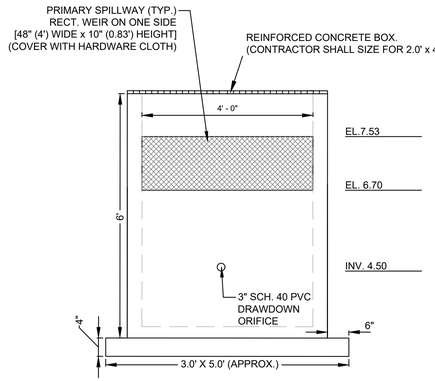
C-6.1

PEI JOB#: 18390.PE

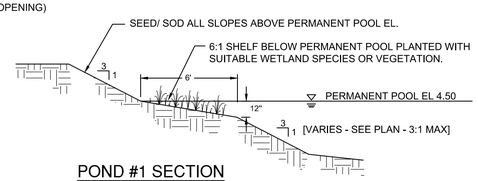
*NOTE:
THE CONTRACTOR SHALL CUT IN AN ORIFICE AT THE PROPOSED SEDIMENT STORAGE ELEVATION TO ATTACH THE SKIMMER. ONCE THE AREA DRAINING TO THE BASIN IS STABILIZED, THE CONTRACTOR CAN ESTABLISH THE FINAL WET POND, REMOVE THE SKIMMER, AND CUT IN THE PRIMARY WEIR.



POND #1 OUTLET STRUCTURE SECTION (SIDE)
NOT TO SCALE



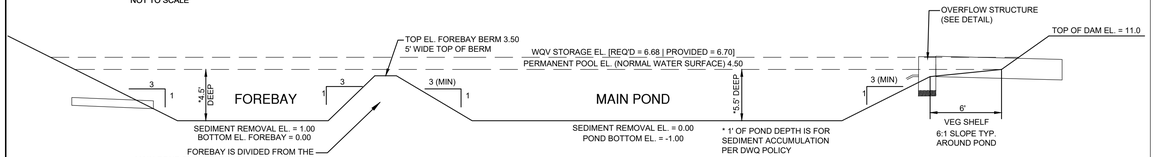
POND #1 OUTLET STRUCTURE SECTION (FRONT)
NOT TO SCALE



POND #1 SECTION
NOT TO SCALE

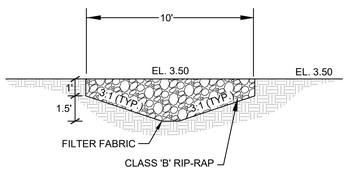
SUITABLE PLANTS
PICKERELWEED (PONTEDERIA CORDATA)
DUCK POTATO (SAGGITARIA LATIFOLIA AND SAGGITARIA CARDINALIS)
SWAMP ROSE (HIBISCUS MOSHEUTOS)
BLUE FLAG (IRIS VIRGINICA)
CARDINAL FLOWER (LOBELIA CARDINALIS)

WET DETENTION POND PLANTING
CONTRACTOR TO INSTALL ON THE 6:1 SLOPED SHELF, EQUAL NUMBERS OF EACH OF THE LISTED SUITABLE PLANTS. DURING INSTALLATION, GROUP SIMILAR SPECIES OF PLANTS TOGETHER. INSTALL PLANTS 24" O.C. IN A CHECKERBOARD PATTERN.

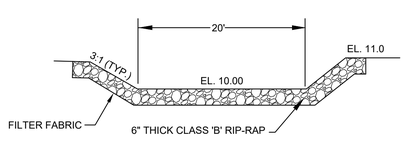


POND #1 - FOREBAY AND STORAGE POND SECTION
NOT TO SCALE

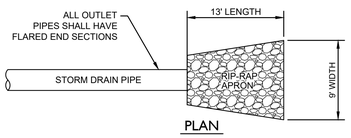
STRUCTURAL BERM FILL SATISFACTORY SOILS:
SOILS WITH ORGANICS LESS THAN 2% WITH BETWEEN 30% AND 60% PASSING THE NO. 200 SIEVE WITH A PLASTICITY INDEX AND LIQUID LIMIT OF LESS THAN 20 AND 50 PERCENT, RESPECTIVELY WITH A UNIFIED SOIL CLASSIFICATION OF SC or CL; FREE OF ROCK OR GRAVEL LARGER THAN 2" IN ANY DIMENSION, ROOTS, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER AS INDICATED BY ENGINEER. COMPACT TO MIN. 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY PER ASTM D 698; SOIL SHOULD BE MOISTURE CONDITIONED BY THE CONTRACTOR BY DRYING OR WETTING THE MATERIAL TO WITHIN +/- 3 PERCENT OF THE MATERIALS OPTIMUM MOISTURE CONTENT.

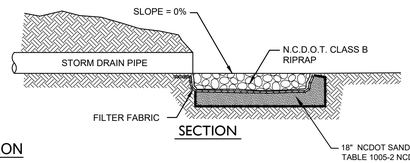


POND #1 FOREBAY SPILLWAY DETAIL
NOT TO SCALE

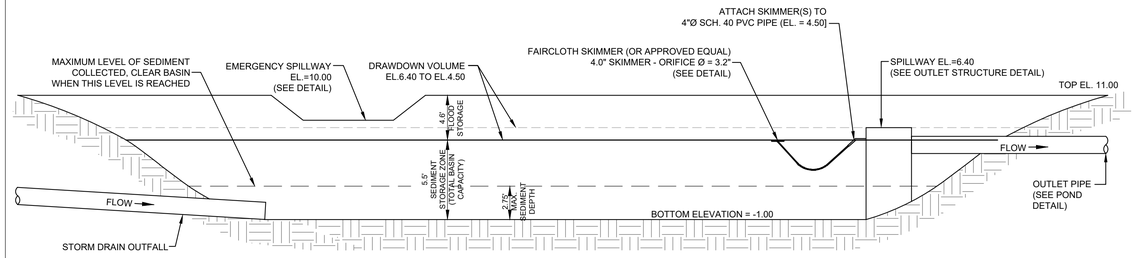


POND #1 EMERGENCY SPILLWAY DETAIL
NOT TO SCALE



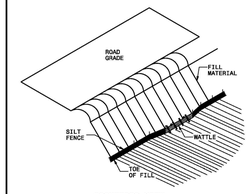


POND #1 OUTLET APRON
NOT TO SCALE



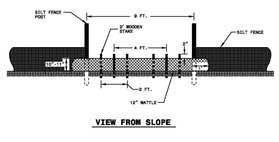
SEDIMENT BASIN #1 DETAIL
NOT TO SCALE

SILT FENCE WATTLE BREAK DETAIL

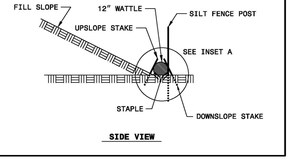


ISOMETRIC VIEW

NOTES:
USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.
EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
DO NOT PLACE WATTLE ON TOE OF SLOPE.
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

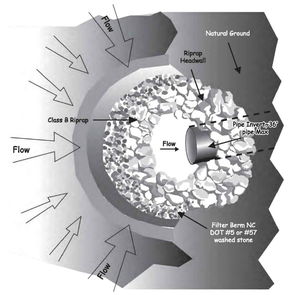


VIEW FROM SLOPE



SIDE VIEW

6



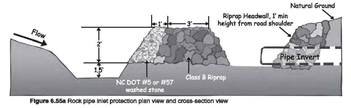


Figure 6.55a Rock pipe inlet protection plan view and cross-section view

6.55.2 Rev. 6/06

ROCK PIPE INLET PROTECTION DETAIL
NOT TO SCALE

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:
1. PER NHC ENGINEERING COMMENTS 04.18.19
2. PER CoW ENGINEERING COMMENTS 04.22.19

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

DETAILS

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC, NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 03.04.19
SCALE: AS NOTED
DESIGNED: DJF
DRAWN: DJF
CHECKED:

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040501 DANIEL J. FISH
04.22.19

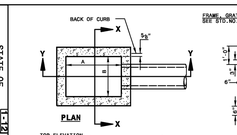
C-6.2

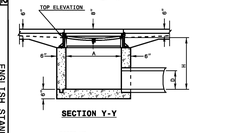
PEI JOB#: 18390.PE

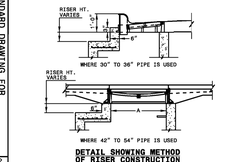
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1:12

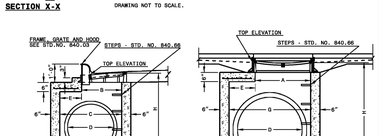
ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

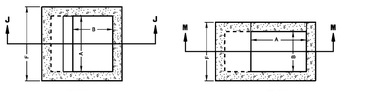






DETAIL SHOWING METHOD OF RISER CONSTRUCTION





GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.

FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.

CONSTRUCT WITH PIPE CROWNS MATCHING.

CHAMFER ALL EXPOSED CORNERS 1".

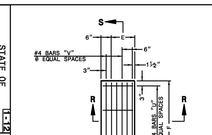
DRAWING NOT TO SCALE.

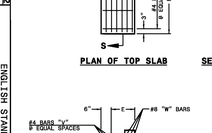
SHEET 1 OF 2
840.02

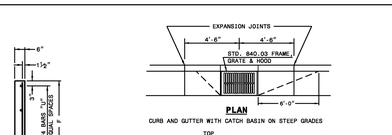
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

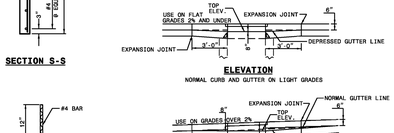
1:12

ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE









MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON Min. HEIGHT, H, WITH NO RISER) *

DIMENSIONS OF BOX AND PIPE						COVER DIMENSION		BARS-U		BARS-V		BARS-W		TOTAL WGT.	CU.YDS. CONC. IN BOX		DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT			NO.	LENGTH	NO.	LENGTH	NO.	LENGTH		TOP SLAB	BOTTOM SLAB	TOP SLAB	BOTTOM SLAB
D	S	A	C	G	H	E	F							LBS.	C.Y.	C.Y.	C.Y.	C.Y.
12"	3'-0"	2'-2"		--	2'-9"	--	--	--	--	--	--	--	--	--	0.235	0.772	0.015	0.029
15"	3'-0"	2'-2"			3'-0"	--	--	--	--	--	--	--	--	--	0.235	0.829	0.023	0.036
18"	3'-0"	2'-2"			3'-3"										0.235	0.887	0.033	0.049
24"	3'-0"	2'-2"			3'-9"										0.235	1.001	0.059	0.086
30"	3'-0"	2'-2"	3'-4"		4'-3"	1'-2"	4'-0"	4	1'-5"	2	3'-9"	39	0.129	0.231	1.149	0.092	0.127	
36"	3'-0"	2'-2"	3'-10"		4'-9"	1'-9"	4'-0"	4	1'-11"	3	3'-9"	43	0.161	0.358	1.714	0.139	0.178	
42"	3'-0"	2'-2"		4'-3"	5'-3"	1'-5"	3'-2"	4	1'-8"	2	2'-11"	32	0.112	0.318	1.738	0.190	0.243	
48"	3'-0"	2'-2"		5'-0"	5'-9"	2'-0"	3'-2"	4	2'-3"	3	2'-11"	35	0.145	0.352	2.052	0.235	0.317	
54"	3'-0"	2'-2"		5'-7"	6'-3"	2'-4"	3'-2"	4	2'-10"	5	2'-11"	41	0.180	0.396	2.387	0.297	0.401	

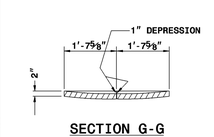
* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

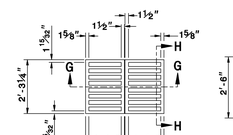
SHEET 2 OF 2
840.02

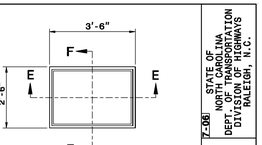
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

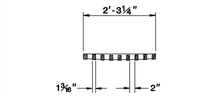
7-08

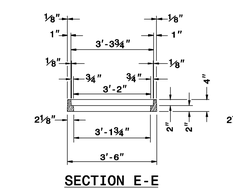
ENGLISH STANDARD DRAWING FOR
DROP INLET FRAME AND GRATES
FOR USE WITH STD. DWG.S 840.14 AND 840.15

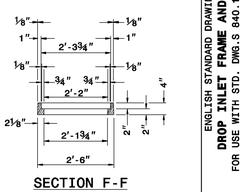










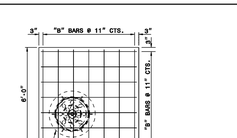


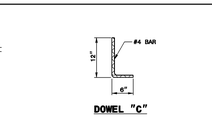
SHEET 1 OF 1
840.16

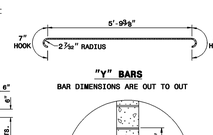
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

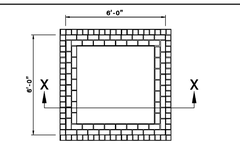
7-06

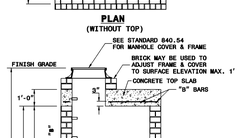
ENGLISH STANDARD DRAWING FOR
TRAFFIC BEARING JUNCTION BOX
FOR USE WITH PIPES 42" AND UNDER











NOTE 1: CONSTRUCT SECTION "B" OF THE PROPOSED WALL 8" THICK. AND SECTION "A" 12" THICK.
NOTE 2: IF PROPOSED STRUCTURE EXCEEDS 12'-0" VERTICAL HEIGHT A DESIGN WILL BE REQUIRED FOR APPROVAL.
NOTE 3: USE SINGLE MAT REINFORCING STEEL; EXCEPT DOUBLE MAT STEEL MAY BE USED IN LIEU OF HOOK BARS IN BASE SLAB.

SHEET 1 OF 2
840.34

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

7-06

ENGLISH STANDARD DRAWING FOR
TRAFFIC BEARING JUNCTION BOX
FOR USE WITH PIPES 42" AND UNDER

GENERAL NOTES:

USE STANDARD OR JUMBO BRICK FOR WALL CONSTRUCTION. SOLID CONCRETE BRICK OR BLOCK ARE OPTIONAL WALL CONSTRUCTION MATERIAL

PRECAST UNITS MADE OF CLASS "AA" CONCRETE MAY BE USED IN LIEU OF BRICK MASONRY CONTRUCTION. SUBMIT DESIGN OF PRECAST UNITS FOR APPROVAL PRIOR TO CONSTRUCTION.

INCLUDE ALL ADJUSTMENTS TO WALLS, SLABS OR REINFORCING MATERIAL IN THE UNIT PRICE BID FOR EACH UNIT.

INSTALL OPTIONAL MANHOLE IN POSITION AS DIRECTED BY THE ENGINEER. CUT OR BEND ALL REBAR CROSSING THIS OPENING TO ALLOW 2" MINIMUM CONCRETE COVERAGE. ENCLOSE THE OPENING WITH 6 "A" BARS TIED TO TO THE REBAR MAT AND SET SO A MINIMUM OF 3" CONCRETE COVER IS ATTAINED. REFERENCE STD. NO. 840.54 FOR MANHOLE INFORMATION.

PROVIDE JUNCTION BOXES WITH MANHOLES OVER 3'-6" IN DEPTH WITH STEPS PLACED ON 12" CENTERS. REFERENCE STD. NO. 840.66.

SPACE DOWEL "C" BARS AT A MAXIMUM OF 12" CENTERS.

MAXIMUM DEPTH OF THIS UNIT AS SHOWN IS 12'.

CONSTRUCT THE JUNCTION BOX IN ACCORDANCE WITH SECTIONS 830, 832, 834 AND 840 OF THE STANDARD SPECIFICATIONS.

BILL OF MATERIAL

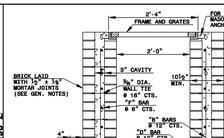
BAR	QTY.	SIZE	LENGTH	WEIGHT
A	8	#5	1'-5"	9.7
B	14	#5	5'-0"	80.3
C	26	#4	1'-5"	26.1
Y	14	#5	6'-11⅜"	101.5
STEEL TOTAL WEIGHT				217.6
CU. YDS. CLASS "AA" CONC.				2.6
CU. YDS. BRICK/FT. HT. (6")				0.53
CU. YDS. BRICK/FT. HT. (12")				0.84

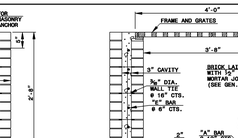
SHEET 2 OF 2
840.34

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

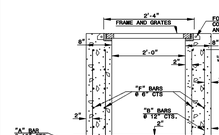
7-06

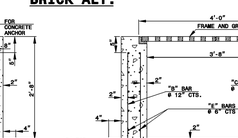
ENGLISH STANDARD DRAWING FOR
TRAFFIC BEARING GRATED DROP INLET
FOR CAST IRON DOUBLE FRAME AND GRATES





BRICK ALT.





CONCRETE ALT.

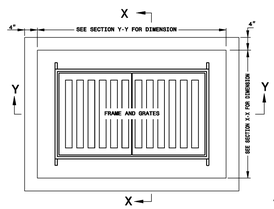
NOTES:
-HORIZONTAL AND VERTICAL DIMENSIONS MAY BE ADJUSTED AS THE CONDITIONS WITHIN ALTERNATE DESIGN REQUIRE.
-MAXIMUM HEIGHT FOR THIS STRUCTURE IS 14'-0"
-MAKE ALL ADJUSTMENTS AS DIRECTED BY THE ENGINEER.
-DEPTH OF STEEL GRATE WILL REQUIRE DEEPER SEAT ALONG SHORT WALLS.

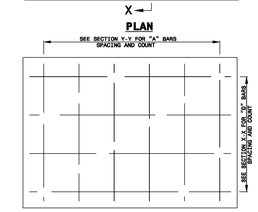
SHEET 1 OF 2
840.35

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

7-06

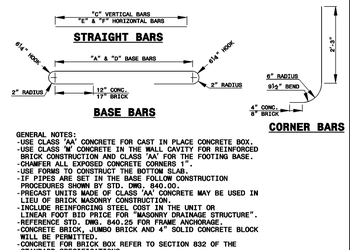
ENGLISH STANDARD DRAWING FOR
TRAFFIC BEARING GRATED DROP INLET
FOR USE WITH PIPES 42" AND UNDER





BILL OF MATERIALS

	COMMON CONCRETE			BRICK ALT.		
BAR	SIZE	LENGTH	QUANTITY	WEIGHT	LENGTH	QUANTITY	WEIGHT
A	#5	6'-4⅛"	8	39.9	7'-7⅛"	8	47.7
B	#5	5'-4⅛"	16	56.3	5'-4⅛"	16	56.3
C	#5	2'-0"	14	30.9	-0-	-0-	-0-
D	#5	6'-9⅛"	24	33.7	6'-9⅛"	24	33.7
E	#5	3'-8"	20	62.5	4'-8"	10	31.3
F	#5	4'-0"	24	97.3	4'-8"	10	45.7
REINF. STEEL (TOTAL WEIGHT LBS.)				320.6			222.8
CONCRETE IN BASE CLASS "AA" (CUBIC YARDS)				0.56			0.56
CONCRETE IN WALLS CLASS "AA" (CUBIC YARDS)				0.92			-0-
CONCRETE IN WALLS CLASS "B" (CUBIC YARDS)				-0-			0.36
BRICK IN WALLS (CUBIC YARDS)				-0-			0.91
CONCRETE TOTAL (CUBIC YARDS)				1.48			1.02
BRICK & CONCRETE TOTAL (CUBIC YARDS)				1.48			1.93
CONC. CUBIC YARDS IN WALL/FOOT OF HEIGHT				0.30			0.14
BRICK CUBIC YARDS IN WALL/FOOT OF HEIGHT				-0-			0.34
LBS. OF REINF. STEEL IN WALL/FOOT OF HEIGHT				54.9			47.6



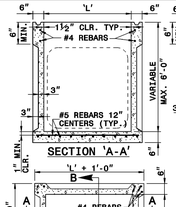
GENERAL NOTES:
-USE CLASS 'AA' CONCRETE FOR CAST IN PLACE CONCRETE BOX.
-USE CLASS 'A' CONCRETE IN THE WALL CAVITY FOR REINFORCED BRICK CONSTRUCTION AND CLASS 'AA' FOR THE FOOTING BASE.
-CHAMFER ALL EXPOSED CONCRETE CORNERS 1".
-USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
-IF PIPES ARE SET IN THE BASE FOLLOW CONSTRUCTION PROCEDURES SHOWN BY STD. DWG. 840.00.
-PRECAST UNITS MADE OF CLASS 'AA' CONCRETE MAY BE USED IN LIEU OF BRICK MASONRY CONSTRUCTION.
-INCLUDE REINFORCING STEEL COST IN THE UNIT OR LINEAR FOOT BID PRICE FOR "MASONRY DRAINAGE STRUCTURE".
-REFERENCE STD. DWG. 840.25 FOR FRAME ANCHORAGE.
-CONCRETE BRICK, JUMBO BRICK AND 4" SOLID CONCRETE BLOCK WILL BE PERMITTED.
-CONCRETE FOR BRICK BOX REFER TO SECTION 832 OF THE STANDARD SPECIFICATIONS.
-PROVIDE GRATED DROP INLETS OVER 3'-6" DEEP WITH STEPS SPACED 12" ON CENTER AS DIRECTED BY STD. DWG. 840.66.
-FRAME AND GRATES ARE SEPARATE CONTRACT ITEMS.

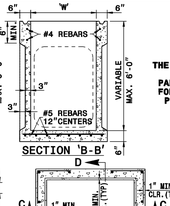
SHEET 2 OF 2
840.35

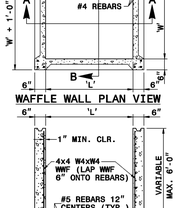
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

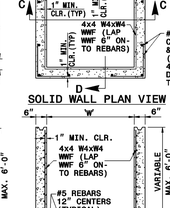
7-06

ENGLISH STANDARD DRAWING FOR
PRECAST DRAINAGE STRUCTURE
(SOLID AND WAFFLE WALL)

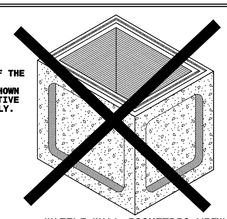


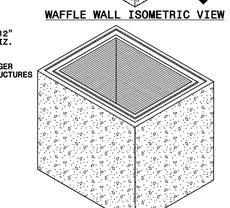






THE PATTERN OF THE KNOCK-OUT PANELS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.





SHEET 1 OF 2
840.45

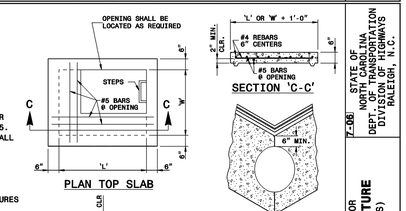
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

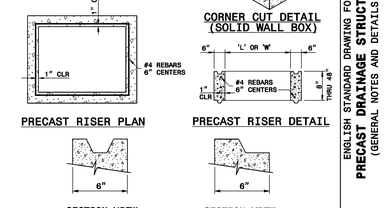
7-08

ENGLISH STANDARD DRAWING FOR
PRECAST DRAINAGE STRUCTURE
(GENERAL NOTES AND DETAILS)

GENERAL NOTES:

- THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.01, 840.02, 840.04, 840.05, 840.11, 840.12, 840.14, 840.15, 840.17, 840.18, 840.19, 840.26, 840.27, 840.28, 840.31, 840.32 AND 840.41.
- INSTALL PRECAST DRAINAGE STRUCTURES AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 840.
- DO NOT PLACE PRECAST DRAINAGE STRUCTURES UNDER TRAFFIC OR WHERE TRAFFIC WILL BE DETOURED.
- USE 4000 PSI CONCRETE.
- PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185.
- LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB FOR WAFFLE WALL STRUCTURE TO 10'-0"; LIMIT SOLID WALL STRUCTURE TO 15'-0".
- PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
- CUT OR FORM OPENINGS FOR PIPE TO PROVIDE REQUIRED SIZE AND LOCATION. ORIENT WAFFLE WALL STRUCTURES SO THAT PIPES ENTER THROUGH THE KNOCKOUT/WAFFLE PANELS ONLY. PIPES MAY ENTER THROUGH THE CORNERS OF SOLID WALL BOXES IF A MINIMUM OF 6" OF WALL IS PROVIDED ABOVE THE HOLE.
- ALL ELEMENTS PRECAST TO MEET ASTM C913.
- FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
- PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS AS DIRECTED BY THE ENGINEER.
- WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
- SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATION SS-S-21A, AASHTO M-198, TYPE B - BUTYL RUBBER.
- LIMIT MAXIMUM STRUCTURE SIZE TO INSIDE CLEAR DIMENSIONS OF 5'-0" X 5'-0".
- THE OUTSIDE PIPE DIAMETER PLUS 2" OR THE OPENING REQUIRED FOR FRAME AND GRATE IS THE MINIMUM STRUCTURE SIZE WHICHEVER IS GREATER.
- USE MANHOLE FRAME AND COVER AS INDICATED ON THE PLANS. REINFORCE OPENING AS SHOWN ON THIS SHEET.





OPTIONAL JOINT DETAILS

SHEET 2 OF 2
840.45

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

7-08

ENGLISH STANDARD DRAWING FOR
PRECAST DRAINAGE STRUCTURE
(GENERAL NOTES AND DETAILS)

SHEET 2 OF 2
840.35

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

REVISIONS:

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNT ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

DETAILS

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY PLAT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 03.04.19
SCALE: AS NOTED
DESIGNED: DJF
DRAWN: DJF
CHECKED: DJF

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 040501 ENGINEER DANIEL J. FISK
03.14.19

C-6.3

PEI JOB#: 18390.PE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

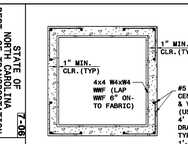
7-06

ENGLISH STANDARD DRAWING FOR

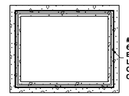
TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE

SHEET 1 OF 1

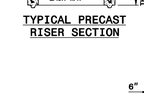
840.46



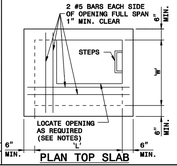
PLAN VIEW OF BASE UNIT



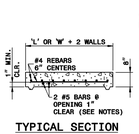
PRECAST RISER PLAN



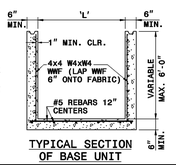
TYPICAL PRECAST RISER SECTION



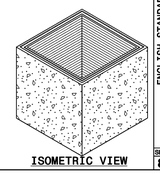
PLAN TOP SLAB



TYPICAL SECTION TOP SLAB



TYPICAL SECTION OF BASE UNIT



ISOMETRIC VIEW

GENERAL NOTES:

- THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.04, 840.05, 840.14, 840.15, 840.31, 840.32, 840.34, 840.35, 840.36 AND 840.41.
- INSTALL AND PAY FOR PRECAST DRAINAGE STRUCTURES IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATION SECTION 840.
- USE 4000 PSI MINIMUM COMPRESSIVE STRENGTH CONCRETE.
- USE ASTM A615 GRADE 60 REINFORCING STEEL. USE ASTM A185 WELDED WIRE FABRIC (WWF).
- LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB TO 15'-0".
- PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
- ORIENT STRUCTURES SO THAT CORNERS WILL NOT BE CUT OR MODIFIED UNLESS ALLOWED BY DETAIL IN PLANS.
- PRECAST ALL ELEMENTS TO MEET ASTM C913.
- FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
- PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.
- WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR IF THE SAME MIN. AREA OF STEEL IS PROVIDED.
- SEAL JOINTS WITH AN APPROVED SEALANT (SEE SECTION 840 OF NCDOT STANDARD SPECIFICATIONS.
- LIMIT MAXIMUM STRUCTURE SIZE INSIDE CLEAR DIMENSIONS TO 6'-0" X 6'-0".
- THE OUTSIDE PIPE DIAMETER PLUS 2" IS THE MINIMUM STRUCTURE SIZE OR THE OPENING REQUIRED FOR GRATE AND FRAME WHICHEVER IS GREATER.
- ROUND MANHOLE MAY BE USED IN LIEU OF SQUARE PROVIDED 2 EXTRA #5'S ARE PLACED ON EVERY SIDE NOT ADJACENT TO A WALL. SEE STD. DWG. 840.34 FOR MANHOLE INSTALLATION.

SECTION VIEWS

OPTIONAL JOINT DETAILS

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

7-06

ENGLISH STANDARD DRAWING FOR

TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE

SHEET 1 OF 1

840.46

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

7-06

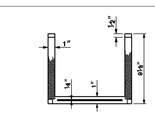
ENGLISH STANDARD DRAWING FOR

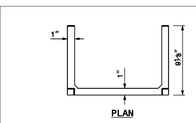
DRAINAGE STRUCTURE STEPS

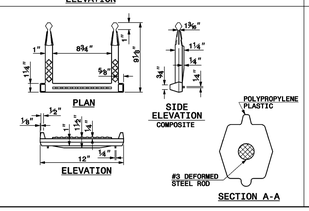
SHEET 1 OF 1

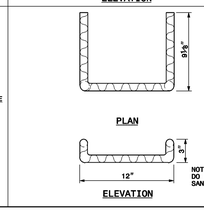
840.66

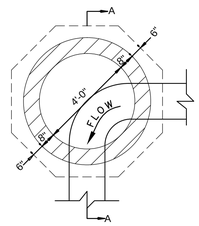
NOTES:
INSTALL ALL STEPS PROTRUDING 4" FROM INSIDE FACE OF STRUCTURE WALL.
STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.



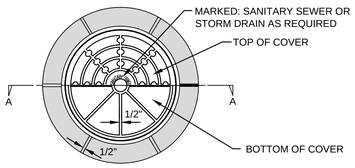








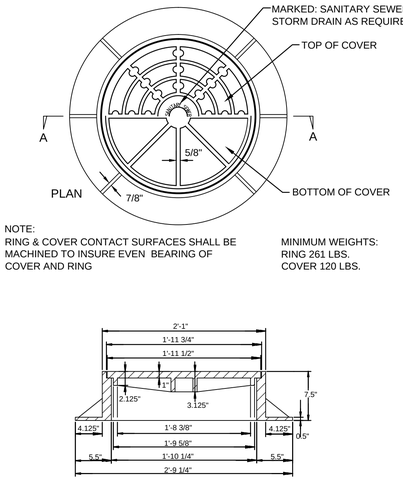
PLAN



PLAN

RING & COVER CONTACT SURFACES SHALL BE MACHINED TO INSURE EVEN BEARING OF COVER AND RING

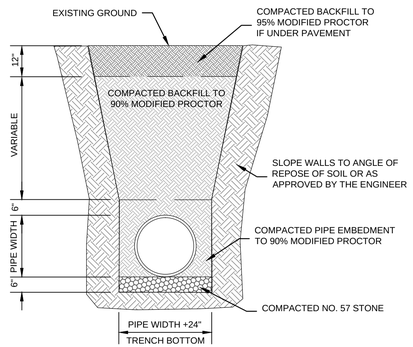
MINIMUM WEIGHTS:
RING 190 LBS.
COVER 120 LBS.



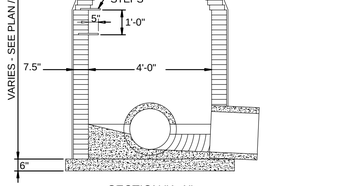
PLAN

NOTE:
RING & COVER CONTACT SURFACES SHALL BE MACHINED TO INSURE EVEN BEARING OF COVER AND RING

MINIMUM WEIGHTS:
RING 261 LBS.
COVER 120 LBS.

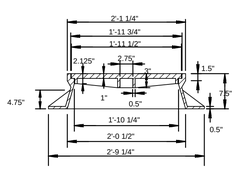


STANDARD PIPE TRENCH DETAIL
SD 1-07
NOT TO SCALE



SECTION "A-A"

GUIDELINES FOR STORM DRAIN MANHOLE
SD 2 -03



SECTION "A-A"

STANDARD MANHOLE RING AND COVER
SD 14-01
NOT TO SCALE

SECTION "A-A"

STANDARD MANHOLE RING & COVER
SD 14-02
NOT TO SCALE

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

Name Date

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON NORTH CAROLINA

Public Services ● Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date:_____ Permit #_____

Signed: _____

REVISIONS:

CLIENT INFORMATION:

SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

DETAILS

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

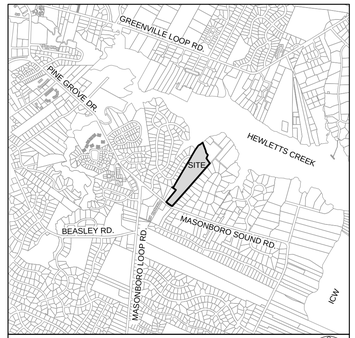
DRAWING INFORMATION
DATE: 03.04.19
SCALE: AS NOTED
DESIGNED: DJF
DRAWN: DJF
CHECKED: DJF

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040501 DANIEL J. FISK
03.12.19

C-6.4

PEI JOB#: 18390.PE



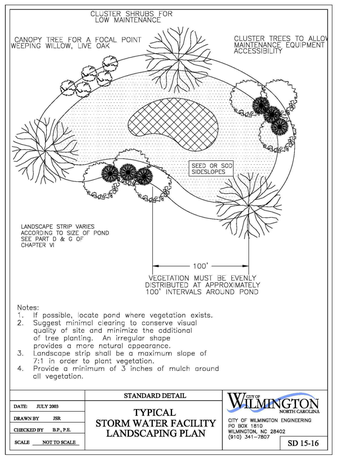
VICINITY MAP
SCALE: 1" = 2,000'

SITE INFORMATION:

PARCEL ID:	R06700-002-136-000
CURRENT ZONING:	R-20
PROPOSED USE:	DETACHED SINGLE FAMILY RESIDENTIAL
PROJECT SITE AREA:	± 16.29 ACRES (± 709,592 SF)
OWNER INFORMATION:	SUNSET LAND INVESTMENTS, LLC. 6310 SEA MIST CT WILMINGTON, NC 28409
FLOOD INFORMATION:	THIS PARCEL CONTAINS AREAS LOCATED IN FLOOD ZONE AE-12, AE-13, AND ZONE X, AS DETERMINED BY FEMA FLOOD PANEL 3720314600K AND 3720314500K DATED AUGUST 28, 2018
CAMA LAND USE CLASSIFICATION:	WATERSHED RESOURCE PROTECTION; CONSERVATION AREA

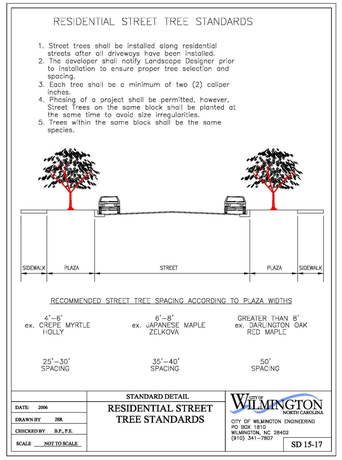
LANDSCAPE NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
3. TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.
4. ALL PLANT MATERIAL SHALL MEET THE CURRENT VERSION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
5. NO TREE, OTHER THAN THOSE SHOWN ON APPROVED PLANS FOR REMOVAL WITH THESE PLANS AND/ OR TREE REMOVAL PERMIT PLANS, SHALL BE REMOVED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ALL SHRUB BEDS AND/OR PLANTING AREAS EXCLUDING TURF AREAS SHALL BE MULCHED WITH 3 INCH MINIMUM AND 4 INCH MAXIMUM DEPTH PINE STRAW MULCH UNLESS OTHERWISE NOTED.
6. ALL PLANTS, 4 FEET OR LESS APART, WILL BE CONNECTED IN ONE PLANTING BED. ALL GROUPS OF PLANTS SHOULD BE WITHIN ONE PLANTING BED WITH THE EDGE OF MULCH EXTENDING 2 FEET BEYOND THE EDGE OF PLANT MASS. SINGLE TREES SHOULD HAVE A CIRCLE OF MULCH NOT LESS THAN 5 FEET DIAMETER.
7. PLANTING SOIL MIX: MIX EXISTING SOIL WITH THE SOIL AMENDMENTS AND FERTILIZERS IN THE QUANTITIES RECOMMENDED BY THE SOIL TESTING LABORATORY, THIRD PARTY RECOGNIZED BY THE STATE DEPARTMENT OF AGRICULTURE OR AS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
8. ANY AND ALL SUBSTITUTIONS OF PLANT MATERIAL SHALL BE APPROVED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. FAILURE IN OBTAINING APPROVAL MAY RESULT IN LIABILITY TO THE CONTRACTOR.
9. THE CONTRACTOR SHALL REPLACE DEAD AND/OR UNHEALTHY PLANT MATERIAL WITHIN 12 MONTHS OF ACCEPTANCE OF THE INSTALLED MATERIAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
10. THE CONTRACTOR SHALL PREPARE ALL SEEDED OR SODDED AREAS TO ASSURE THAT THE SUBGRADE HAS BEEN RAKED AND ROLLED TO ACCEPT THE SOD/SEED. ALL SOD/SEED AREAS MUST BE IRRIGATED OR HAND WATERED. ALL SOD SHALL BE PLACED WITH STAGGERED JOINTS AND NO GAPS BETWEEN SOD JOINTS. SOD SHOULD BE ROLLED AFTER INSTALLATION. ALL SEEDED AND/OR SODDED AREAS SHOULD PROVIDE A SMOOTH SURFACE FREE OF DIPS AND UNLEVELED GROUND.
11. IF AN AUTOMATIC IRRIGATION SYSTEM IS PROVIDED, IT SHALL BE DESIGNED AND INSTALLED BY A LICENSED IRRIGATION CONTRACTOR IN THE STATE OF NORTH CAROLINA.
12. THE CONTRACTOR IS RESPONSIBLE FOR HAND WATERING THE INSTALLED PLANT MATERIAL FOR A PERIOD OF 6 MONTHS FROM THE ACCEPTANCE OF THE OWNER OR OWNER'S REPRESENTATIVE IF IRRIGATION HAS NOT BEEN INSTALLED AT THE TIME OF SUBSTANTIAL COMPLETION. ALL MATERIAL INCLUDING SOD AND SEEDED AREAS SHALL BE HAND WATERED ONCE WEEKLY OR AS NEEDED TO ENSURE SURVIVAL OF PLANTS.
13. CONTRACTOR IS RESPONSIBLE FOR REMOVING TRASH, DEBRIS AND EXCESS MATERIALS FROM THE JOB SITE ONCE THE PROJECT IS COMPLETE. SECURING ANY MATERIALS LEFT ON SITE DURING THE COURSE OF THE PROJECT IS THE CONTRACTOR'S RESPONSIBILITY.
14. ALL DISTURBED AREAS NOT DESIGNATED FOR SOD SHALL BE SEEDED.
15. ALL VEGETATION PROPOSED WITHIN SIGHT DISTANCE AREAS SHALL NOT INTERFERE WITH SIGHT DISTANCE FROM 30' TO 10'.
16. PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN TREE PROTECTION FENCING.



Notes:
1. If possible, locate pond where vegetation exists.
2. Suggest minimal clearing to conserve visual quality of site and minimize the additional of tree planting. An irregular shape provides a more natural appearance.
3. Landscape strip shall be a maximum slope of 7:1 in order to plant vegetation.
4. Provide a minimum of 3 inches of mulch around all vegetation.

STANDARD DETAIL		
DATE: JULY 2003	TYPICAL STORM WATER FACILITY LANDSCAPING PLAN	CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DRAWN BY JSR		
CHECKED BY B.P., P.E.		
SCALE NOT TO SCALE		SD 15-16



STANDARD DETAIL		
DATE: 2006	RESIDENTIAL STREET TREE STANDARDS	CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DRAWN BY JSR		
CHECKED BY B.P., P.E.		
SCALE NOT TO SCALE		SD 15-17

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE
	PEH	10	Carpinus betulus `Fastigiata` Pyramidal European Hornbean	2" cal
CANOPY TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE
	BE	84	Ulmus parvifolia `Bosque` Bosque Elm	2" cal
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER
	LOR	15	Loropetalum c. `Ruby` Ruby Loropetalum	7 gal
	PV	15	Pittosporum t. `Variegata` Variegated Mock Orange	7 gal

KEY NOTES:

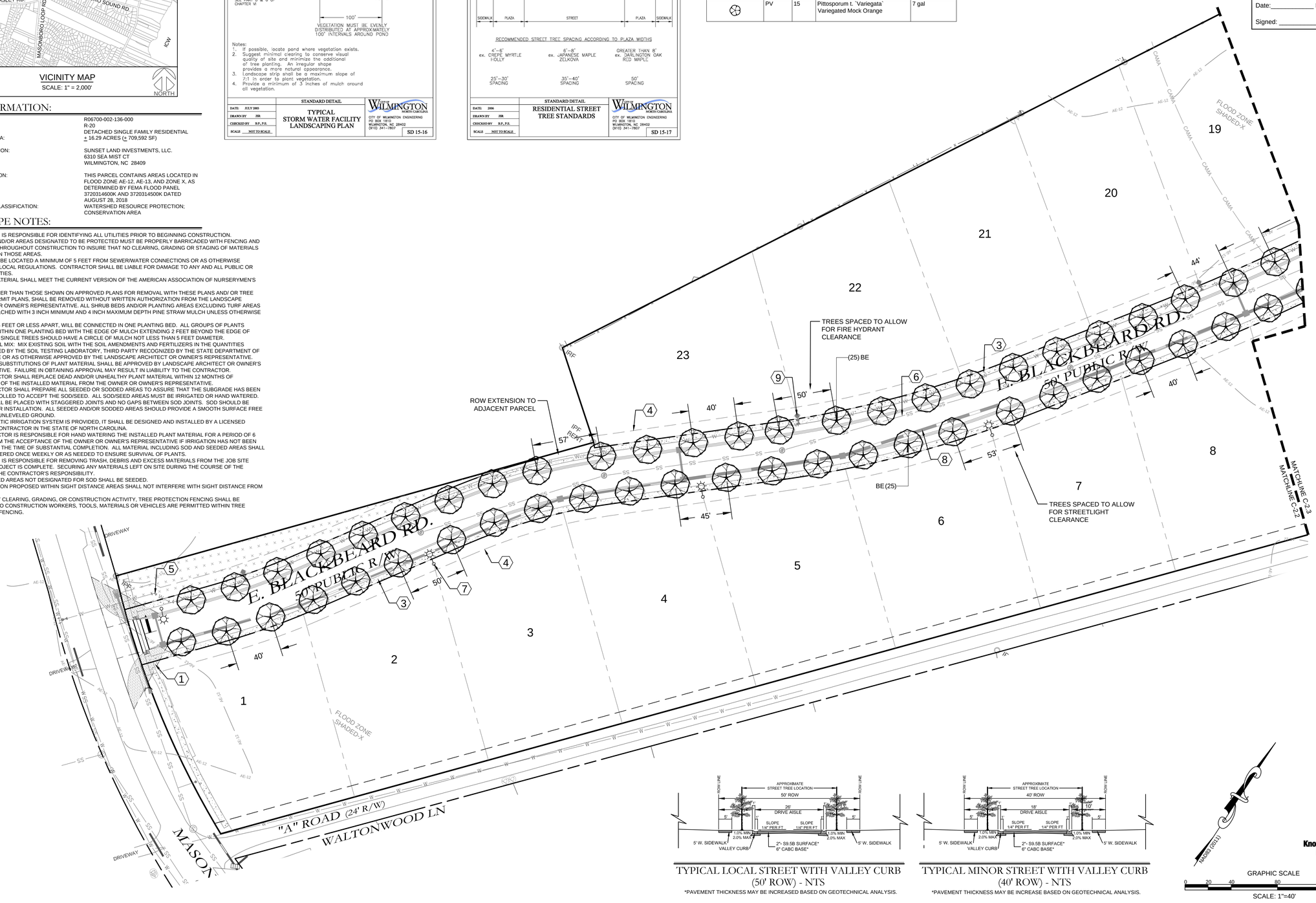
1. CITY OF WILMINGTON SIGHT DISTANCE TRIANGLE: CITY OF WILMINGTON 46'X46' SIGHT TRIANGLE
3. CONCRETE SIDEWALK: TO COMPLY WITH CITY DETAIL SD 3-10
4. 10' GENERAL UTILITY EASEMENT
5. PROPOSED WATER MAIN: SEE PLAN AND PROFILE SHEETS
6. PROPOSED SEWER MAIN: SEE PLAN AND PROFILE SHEETS
7. PROPOSED STREET LIGHT FINAL LOCATION TO BE DETERMINED
8. PROPOSED STORM CONVEYANCE: SEE GRADING AND DRAINAGE PLANS
9. PROPOSED FIRE HYDRANT

For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____



TYPICAL LOCAL STREET WITH VALLEY CURB (50' ROW) - NTS
*PAVEMENT THICKNESS MAY BE INCREASED BASED ON GEOTECHNICAL ANALYSIS.

TYPICAL MINOR STREET WITH VALLEY CURB (40' ROW) - NTS
*PAVEMENT THICKNESS MAY BE INCREASE BASED ON GEOTECHNICAL ANALYSIS.

811 Know what's below. Call before you dig.

GRAPHIC SCALE
0 20 40 80 160
SCALE: 1"=40'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNT ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

LANDSCAPE PLAN

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC, NEW HANOVER COUNTY

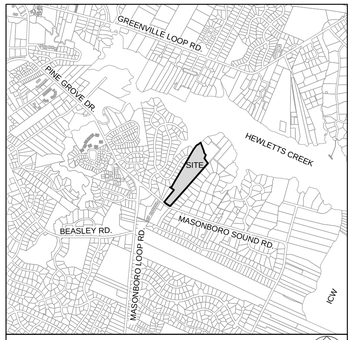
PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 4/25/19
SCALE: 1" = 40'
DESIGNED: JOM
DRAWN: AHE
CHECKED:

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER 1823 ALISON H. ENGEBRETSON 4/29/19

L-1.0

PEI JOB#: 18390.PE



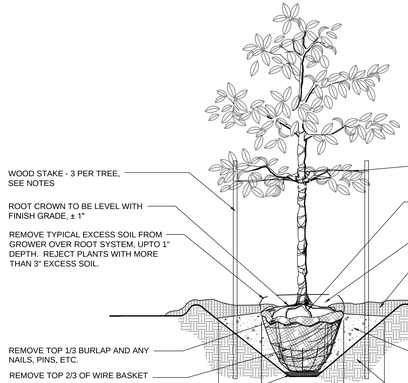
VICINITY MAP
SCALE: 1" = 2,000'
NORTH

SITE INFORMATION:

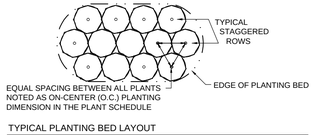
PARCEL ID:	R06700-002-136-000
CURRENT ZONING:	R-20
PROPOSED USE:	DETACHED SINGLE FAMILY RESIDENTIAL
PROJECT SITE AREA:	± 16.29 ACRES (± 709,592 SF)
OWNER INFORMATION:	SUNSET LAND INVESTMENTS, LLC. 6310 SEA MIST CT WILMINGTON, NC 28409
FLOOD INFORMATION:	THIS PARCEL CONTAINS AREAS LOCATED IN FLOOD ZONE AE-12, AE-13, AND ZONE X, AS DETERMINED BY FEMA FLOOD PANEL 3720314600K AND 3720314500K DATED AUGUST 28, 2018
CAMA LAND USE CLASSIFICATION:	WATERSHED RESOURCE PROTECTION; CONSERVATION AREA

KEY NOTES:

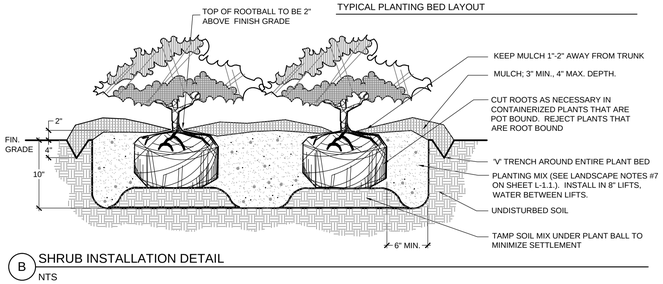
1. CITY OF WILMINGTON SIGHT DISTANCE TRIANGLE:
CITY OF WILMINGTON 46'X46' SIGHT TRIANGLE
3. CONCRETE SIDEWALK:
TO COMPLY WITH CITY DETAIL SD 3-10
4. 10' GENERAL UTILITY EASEMENT
5. PROPOSED WATER MAIN:
SEE PLAN AND PROFILE SHEETS
6. PROPOSED SEWER MAIN:
SEE PLAN AND PROFILE SHEETS
7. PROPOSED STREET LIGHT
FINAL LOCATION TO BE DETERMINED
8. PROPOSED STORM CONVEYANCE:
SEE GRADING AND DRAINAGE PLANS
9. PROPOSED FIRE HYDRANT



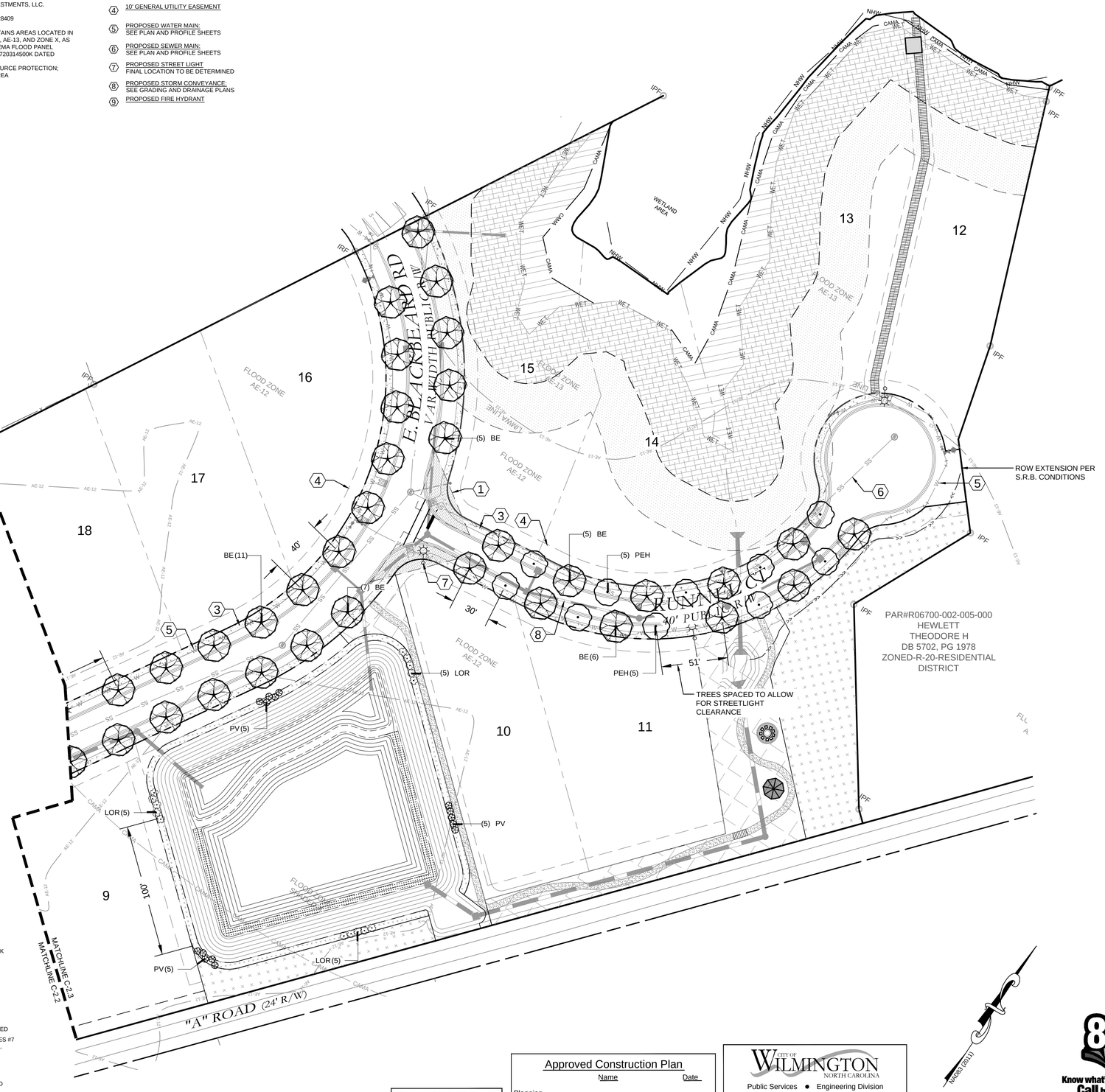
A SINGLE STEM TREE INSTALLATION DETAIL
NTS



TYPICAL PLANTING BED LAYOUT



B SHRUB INSTALLATION DETAIL
NTS



For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

NADS (2011)

811 Know what's below. Call before you dig.

GRAPHIC SCALE
0 20 40 80 160
SCALE: 1"=40'

FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

REVISIONS:

CLIENT INFORMATION:
SUNRISE LAND INVESTMENTS, LLC.
7923 REUNION DR
WILMINGTON, NC 28411

PARAMOUNTE ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

LANDSCAPE PLAN

CREEKSIDE
MASONBORO SOUND RD.
WILMINGTON, NC; NEW HANOVER COUNTY

PROJECT STATUS
CONCEPTUAL LAYOUT:
PRELIMINARY LAYOUT:
FINAL DESIGN:
RELEASED FOR CONST:

DRAWING INFORMATION
DATE: 4/25/19
SCALE: 1" = 40'
DESIGNED: JCM
DRAWN: AHE
CHECKED:

SEAL
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1823 4/29/19 ALLISON H. ENGEBRETSON

L-1.1

PEI JOB#: 18390.PE